SUNDRY CIVIL APPROPRIATION BILL, 1921

HEARING

BEFORE

SUBCOMMITTEE OF HOUSE COMMITTEE ON APPROPRIATIONS

CONSISTING OF

MESSRS. JAMES W. GOOD (CHAIRMAN), WILLIAM S. VARE, WALTER W. MAGEE, JOSEPH W. BYRNS, AND JAMES A. GALLIVAN

IN CHARGE OF THE

SUNDRY CIVIL APPROPRIATION BILL FOR 1921

THURSDAY, FEBRUARY 19, 1920.

SMITHSONIAN INSTITUTION.

STATEMENTS OF MR. CHARLES D. WALCOTT, SECRETARY; MR. C. G. ABBOT, ASSISTANT SECRETARY; MR. W. de C. RAVENEL, ADMINISTRATIVE ASSISTANT TO THE SECRETARY IN CHARGE OF THE NATIONAL MUSEUM; MR. J. WALTER FEWKES, CHIEF, BUREAU OF AMERICAN ETHNOLOGY; MR. LEONARD C. GUNNELL, ASSISTANT IN CHARGE OF REGIONAL BUREAU FOR THE UNITED STATES, INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE; AND MR. NED HOLLISTER, SUPERINTENDENT NATIONAL ZOOLOGICAL PARK.

INTERNATIONAL EXCHANGES.

The CHAIRMAN. You are asking $50,000 for the system of international exchanges between the United States and foreign countries, under the direction of the Smithsonian Institution, etc.

Mr. ABBOT. Mr. Chairman, as you are aware, our system of international exchanges is the forwarding agency which receives packages from abroad and which receives packages from the Government and from institutions in this country, and makes exchanges between this country and countries abroad. About 70 or 75 per cent of this business is put upon it by law, the governmental business covering the Patent Office, Library of Congress, and other institutions. There are 100 complete sets of Government publications authorized to be sent abroad in this way. Fifty-six complete sets and 37 partial sets are being sent, making 93 in all, complete or nearly complete, sets of Government publications that are forwarded through this system. As you are aware, rates of freight have increased enormously. I have a table here which I will submit.

(The table referred to is as follows:)

Comparative statement of ocean rates on exchange consignments to certain ports throughout the world.

Countries.	Port.	Rates per cubic foot during fiscal years—				Increase over 1914.	Date last shipment left New York.
		1914	1917	1919	1920		
Europe:						*Per ct.*	1919.
Denmark [1]	Copenhagen	$0.15	$1.75	$1.20	$0.70	367	Dec. 27
Norway [2]	Christiania	.15	1.75	1.40	1.25	733	Nov. 29
Holland	Rotterdam	.12	1.00	.60	.60	400	Dec. 8
England	London	.16	5.80	.85	.75	369	Dec. 30
France	Havre	.21	2.50	1.25	.70	233	Dec. 10
Italy	Naples	.16	2.25	.75	.65	306	Dec. 29
Asia, Japan	Yokahama	.25	1.45	.62½	.62½	150	Dec. 30
Africa, Transvaal	L. Marquez	.33	1.75	.73½	.73½	123	Nov. 7
South America, Argentina	Buenos Aires	.42½	1.25	.75	.42½	.....	1920. Jan. 16
Australia, Victoria	Melbourne	.34	1.50	.75	.75	121	1919. Sept. 17

[1] Consignment forwarded via Scandinavian-American Line.
[2] Consignment forwarded via Norwegian-America Line.

Mr. ABBOT. I will quote to you some of the salient features of this table. For the European countries of Denmark, Norway, Holland, England, France, and Italy, the smallest increase according to the last sending over the rates which prevailed in 1914 per cubic foot, was 233 per cent. The rates are not falling rapidly and they will probably continue high for a considerable time to come. It is true we are asking for an increased appropriation, but the business of the exchanges which we used to do for $32,000 a year has returned since the war practically to its normal volume and can not be done without greatly increased expense. The sendings abroad are at present about equal to the sendings prior to the war. The receipts of packages through the exchange have not yet quite reached the normal volume, although they have increased so as to be more than double this year what they were last year.

FREIGHT.

The CHAIRMAN. Under your system of exchanges, do you pay the freight on all packages that are sent from the United States and do the other countries pay the freight on packages that are sent to the United States?

Mr. ABBOT. Yes, sir.

The CHAIRMAN. Most of this freight, I take it, is ocean freight?

Mr. ABBOT. Yes, sir.

The CHAIRMAN. You have to pay some railroad transportation abroad, do you not?

Mr. ABBOT. Yes, sir; but only to a very small extent. The freight on shipments to all foreign countries with the exception of England is prepaid to the port of debarkation only.

The CHAIRMAN. You say that the smallest increase——

Mr. ABBOT (interposing). The smallest increase to European countries was 233 per cent. Most of them are much more than that.

The CHAIRMAN. I notice that the increase for Norway is 733 per cent over 1914.

Mr. ABBOT. Yes, sir.

The CHAIRMAN. How about railroad transportation?

Mr. ABBOT. Railroad transportation is a problem for this country only, for the most part. The foreign countries, with the exception of Great Britain, maintain international exchange agencies in cooperation with ours, and they pay for the transportation, within their borders; but with Great Britain it is different, and we have some expense on that side. We have never been able to secure the establishment of a governmental exchange agency in Great Britain in cooperation with our own, and we deal with a private exchange agency there. The rates for railroad freight and for the boxing of packages are very high, as you know.

The CHAIRMAN. Now, you have to pay, for instance, in France, some other freight charges after the package is unloaded at the port on account of land transportation.

Mr. ABBOT. To get it to our exchange agency.

NOTE.—That statement is in error. The exchange service is not, except in the case of Great Britain, referred to above, required to pay any expenses in connection with the delivery of shipments after they reach the various ports of debarkation. The foreign transportation charges, except for Great Britain, are met by the exchange agencies abroad.

The CHAIRMAN. What is the average increase in freight rates for transportation in European countries?

Mr. ABBOT. I have not that information before me, but I can obtain it for you.

The CHAIRMAN. You can put that in the record, along with a statement showing the increase in general transportation rates.

Mr. ABBOT. Yes, sir; I will have that information obtained for you.

NOTE.—The information available is as follows:

The exchange service has no data from which it can give a statement showing the increase in freight rates in any European country except Great Britain. The general transportation charges in connection with the distribution of exchanges in Great Britain has increased approximately 100 per cent.

Drayage in Washington in 1914, 5 cents per 100 pounds; 1920, 10 cents per 100 pounds. Drayage in New York City in 1914, 10 cents per 100 pounds; 1920, from 10 cents to 30 cents per 100 pounds, according to distance of loading vessel. In addition to drayage to steamers in New York there are now many extra charges, such as drayage to warehouse, storage, and labor.

Railroad freight to New York City in 1914 was at the rate of 37 cents per hundredweight. The present railroad freight to New York is 55½ cents per hundredweight.

Mr. ABBOT. The business is more outgoing than incoming for the reason that foreigners, to a considerable extent, send the business by mail. It is not satisfactory that way, and it costs much more. For example, I have a statement which was prepared by the exchanges, in order to give you an idea of the economies of the service. This statement shows that recently a shipment was made to Holland of 26 boxs at a cost of $141.50. If those 26 boxes had been sent by mail, it would have cost approximately $390, or $248 more than it cost the institution to forward the consignment. I do not know why it is that the foreigners do not use he exchange service more. They do use it to a large extent but not to anything like the extent that we use it in transporting material outward. However, there is very much less business coming this way than goes out. This Government in the matter of Government publications is very much more liberal than other Governments are.

The CHAIRMAN. Are your sendings confined to Government publications?

Mr. ABBOT. Yes, sir; the growth of the service would intimate that. It started out, as I said, as a private affair of the Smithsonian Institution and was so continued from 1850 up to nearly 1880. It grew up from that original basis and there are various laws governing it.

The CHAIRMAN. Are you directed under the law to send 100 copies of every Government publication?

Mr. ABBOT. Not to exceed 100.

The CHAIRMAN. How many do you send now?

Mr. ABBOT. There are 56 foreign depositories receiving full sets of Government documents and 37 are depositories receiving partial sets, making 93 in all. The total number authorized by law is 100.

The CHAIRMAN. How many depositories are there in the United States that receive foreign publications?

Mr. ABBOT. I can not say that without looking up the information.

The CHAIRMAN. Can you state the approximate number?

Mr. ABBOT. I would not be able to give an estimate on that without consulting the figures.

The CHAIRMAN. You can put that in the record.

Mr. ABBOT. I will do so.

NOTE.—The Library of Congress is the principal one. It receives documents from all foreign countries through the exchanges. Outside of that Library, nearly all of the United States Government bureaus receive more or less matter through the exchanges. Practically all prominent scientific and literary establishments in the United States and many State and city government organizations receive publications from foreign countries through the Exchange Service.

Mr. ABBOT. No, sir: about 70 per cent of the business is Government publications and the remainder is from educational and other institutions in this country. We exchange not only publications but collections of materials for museums and the like, and various scientific matters. This is a service that was built up in the very early years of the Smithsonian Institution, and along about 1878 it got to use about one-fourth of the whole income of the Smithsonian Institution from private sources at that time. It was taken over by Congress, and the appropriations have been gradually increased as the business grew, until the present time.

The CHAIRMAN. What percentage of your sendings is composed of publications?

Mr. ABBOT. I would not be able to state definitely, but I should think fully 90 per cent.

The CHAIRMAN. What does the other 10 per cent consist of?

Mr. ABBOT. Supposing that it is 10 per cent, but I think it is much less, it would consist of scientific apparatus, collections for museums, and matters of that kind.

The CHAIRMAN. You are authorized under the law to send such packages and matters, are you?

ADDITIONAL EMPLOYEES.

The CHAIRMAN. For salaries, you are asking for approximately what you expended in 1919 and about $1,500 more for wages?

Mr. ABBOT. Mr. Chairman, the question of salaries and wages is engaging the attention of Congress, or will soon. It is obvious to every one of us that the salaries we pay in the International Exchange Service to everybody down there are wholly inadequate, but we thought that that would be a matter that would come before Congress, in connection with the reclassification. I can say to you that the scale of salaries is shockingly low. The chief clerk of the International Exchange Service receives $2,000 plus the bonus, and one other clerk receives $1,800 plus the bonus. But more than half of the employees get salaries less than $1,000 plus the bonus. Now, this state of affairs ought not to continue, but we have made no recommendation with regard to it, with the expectation that it was a matter that would be dealt with when the reclassification matter comes up.

The CHAIRMAN. In 1919 you expended $3,040 for wages, and you are estimating for 1921 $4,560. Does that estimate of $1,520 increase for next year mean an increase in the number of workmen or an increase in wages?

Mr. ABBOT. It means an increase in the number. We will have a great deal more business, naturally, than during the war, and it is necessary to take on an increased number in order to take care of that business. During the war, we were two employees short, one of them being in the military service, so that we have simply restored the roll to what it was prior to the war, now that the volume of work done is equal to what it was before.

PACKING BOXES.

The CHAIRMAN. Your estimate for packing boxes is $6,300, as against an expenditure of $1,720.10 in 1919. That would indicate that you are estimating for a great many more packing boxes next year.

Mr. ABBOT. Yes, sir. During the war, the outgoing business naturally fell off very greatly, but now it has been restored. The cost of packing boxes has increased 34 per cent over the cost before the war, and it is not expected that the cost will be reduced at all. For example, boxes that cost 83 cents in 1914 now cost $1.11. We have no boxes on hand at present, but orders are being filled, and there will have to be a large number secured before the end of the fiscal year.

The CHAIRMAN. If you compute your expenditures for packing boxes at an increase of 40 per cent over 1919 expenditures, you would have an increase of only about $2,500, whereas you are asking in this estimate for $6,300.

Mr. ABBOT. You recall that in 1919 we were not doing anything like the business that we are doing now. It was almost impossible at that time to get any ocean transportation. Shipments were delayed for months in order to get ships, but transportation is now getting to a nearly normal basis. The fiscal year 1919 covered the last half of 1918, when we had practically no business or very little. It was being done at that time as a postal business, so that the year 1919 is not to be taken as a fair basis on which the estimates of 1921 are made.

The CHAIRMAN. Do you use heavy pasteboard boxes?

Mr. ABBOT. We are using wooden boxes. They receive pretty rough handling.

The CHAIRMAN. Do not importers and exporters when sending packages of medium size now use heavy pasteboard boxes instead of wooden boxes, in order to reduce the expense to a large extent?

Mr. ABBOT. It is possible that they may use those to some extent. In this case, however, it is desirable to keep these packages in good shape. Recently I had shown to me some books which had come from Australia through London to us, through our exchanges, and those books were as fresh and good-looking as though they had just come from the press. Books sent by mail, even though packed carefully, as they do when they forward books from abroad, usually have their edges bent and are in bad shape. Oftentimes those inferior packages break loose, which means great loss in material. Therefore, I do not think it would be wise to change from a good container to a partially satisfactory one.

UNEXPENDED BALANCE.

The CHAIRMAN. You have $45,000 for this service this year. What was your balance on January 1?

Mr. ABBOT. I have the balance here for February 1, if that is agreeable to you. The uncommitted available balance on February 1, 1920, was $11,549.73. We had then five months of service to go on, and the average freight for the first seven months of the fiscal year was $1,600 per month, so that there would be at the same rate about $8,000, or more, to be paid out for freight.

The CHAIRMAN. I presume that you were required during the first part of this fiscal year to take up some of your shipments that were in arrears, and that that is the reason why you have expended so large a part of your appropriation for the first seven months.

Mr. ABBOT. We have an enormous amount of material there still which has not been touched yet, for the reason that we have not yet taken up our exchanges with the Central Powers. We have not taken up our exchanges with Austria, Bulgaria, Germany, Hungary, Montenegro, Roumania, Russia, Serbia, or Turkey. We expect that as soon as peace is declared between us and the Central Powers, the exchange will be restored, so that this accumulation of material will, before the end of the fiscal year 1921, be sent away. Therefore, I think there can be no probability that there will be a reduction in the business. The business at present, owing to the accumulated material, is about equal to what it was before the war. The packages delivered to us have not yet reached their former volume, before the war, so that, both on account of the accumulated material and the probable recovery of the delivery of packages to its normal volume, which has been held up at the sources because of known difficulties in sending, we will have accumulated so much business that it will probably be at least equal to what we have this year, and it will probably be greater than in 1920.

The CHAIRMAN. Do you not think you could get along this next year with the same appropriation you have for this year?

Mr. ABBOT. No, sir; not if we are going to do the business. I think it is pretty doubtful if we shall come within the $50,000 we are asking for.

AMERICAN ETHNOLOGY.

The CHAIRMAN. For continuing ethnological researches among the American Indians and the natives of Hawaii you are asking $46,000. You had $42,000 for this year. What is your unexpended balance?

Mr. FEWKES. We have approximately $19,154.44.

The CHAIRMAN. On the 1st of February?

Mr. FEWKES. Approximately.

The CHAIRMAN. Do you spend, as a general rule, the greater part of your appropriation during the first part of the fiscal year?

Mr. FEWKES. We generally spend most of it in the summer months, as field work takes a large amount. The bureau is an ethnological research bureau; we have field work to gather facts and work in the office to record them. The books show that we generally spend more in the summer months than we do in the winter.

The CHAIRMAN. In 1919 you spent in salaries $27,347.83, and I observe that your estimated requirements for salaries during the next year are $28,100?

Mr. FEWKES. Yes, sir.

INCREASES IN SALARY.

The CHAIRMAN. That is an increase of about $800. In 1919 you had 21 persons employed, whereas for 1921 you estimate the employment of 20 persons. That must mean you are counting on increasing some salaries.

Mr. FEWKES. Yes, sir.

The CHAIRMAN. Was that estimate for an increase based on the assumption that Congress might not carry the bonus for next year?

Mr. FEWKES. No, sir; I did not so consider it. It is a natural growth.

The CHAIRMAN. How many of the salaried employees is it contemplated to increase?

Mr. FEWKES. I should say three or four.

The CHAIRMAN. You have not the details as to that?

Mr. FEWKES. No, sir.

TRAVELING EXPENSES.

The CHAIRMAN. In 1919 you spent for travel and field expenses $7,434.66, and you estimate that this year your travel expenses will be $10,500.

Mr. FEWKES. Our work takes us in the field, and the increased cost of travel and subsistence, of workmen, etc., has been so great that we need a larger amount in order to carry on our field work successfully.

The CHAIRMAN. Are you doing much of this research work in Hawaii?

Mr. FEWKES. I am just getting a man to go there in conjunction with a movement which has been inaugurated by the Bishop Museum in Honolulu, and he will be off within a month or a few weeks.

The CHAIRMAN. This is an increase of $4,000 over your customary appropriation?

Mr. FEWKES. Yes, sir.

FOR REPAIR TO RUIN NEAR ROOSEVELT DAM.

The CHAIRMAN. Do you think you really need this increase at this time?

Mr. FEWKES. Yes, sir. Our work is primarily research work and publication: these are the two aspects of our work. We need to enlarge our work in the field in order that we can gather the facts to be recorded. If we do not have that increase our work is naturally limited by so much. There are certain propositions which have come up along the line mostly of archæological work, that is, in the study of the history of the Indians, and I want $4,000 to carry on new investigations primarily among the Indians of the

Southwest. In that connection I am working in conjunction with the National Park Service of the Interior Department; they furnish a large part of the money for certain problems.

I want to take up other propositions, and one of them, for instance, would be the ruin near Roosevelt Dam, which is not far from the hotel there, and it is being visited by a great many people. I want to take that ruin, repair it, and put it into condition so that it will teach the people who go there something more than if it were half buried. It is a few miles from the old Roosevelt Dam; it is now partly covered with débris and the walls are tottering. I want $2,000 to put it in condition so that it will be worth while for persons to go there and learn something.

Mr. MAGEE. Who built this cliff house?

Mr. FEWKES. Well, this was built by the prehistoric people who lived in the Southwest before the white man came there. It was a ruin when the Spanish came in 1540.

Mr. MAGEE. What is it made of?

Mr. FEWKES. It is made of stone, but it is not of as fine workmanship as will be found in some of these other ruins. There is one that is on the Mesa Verde in Colorado [indicating photograph] on which I have worked. I want to excavate this ruin so it will be like that or like this one here [indicating photograph].

Mr. BYRNS. What is the size of this ruin near the Roosevelt Dam?

Mr. FEWKES. It is about 100 feet long; I have not put the lines on it. This is a particularly valuable one to open up just now because it is really an asset to the country to have this ruin so repaired and put in condition that tourists can see it. It is right near the Apache Trail, where hundreds of visitors are passing. It will be an asset, incidentally, to the hotel which is going to be built there and to the Southern Pacific Railroad, but besides that it will be educational and let people know what kind of inhabitants we had in the United States before the white man came. People are turning toward that country now; instead of spending $300,000,000 in Europe they are going to spend a lot of money in our own country. So we are developing that aspect of the ethnological and archæological work in order to contribute our part to the diffusion of knowledge of the prehistoric people of this country. Here is one I worked on last summer.

The CHAIRMAN. That is the square tower?

Mr. FEWKES. Yes; and I regret to say I have not a picture showing how it looks now, because I sent it to be printed. There is a ruin I excavated in 1907 up in Colorado [indicating]; it is the biggest one of all, the Cliff Palace. They give you an idea of how I want to repair this ruin with $2,000.

The CHAIRMAN. Spruce Tree House, Square Tower House, and Cliff Palace are all in the Mesa Verde National Park?

Mr. FEWKES. They are in the Mesa Verde and I am going out there to repair another one. As this ruin is in the southern part of Arizona, the value of the work proposed is because it will be another type.

The CHAIRMAN. Is it on a Government reservation?

Mr. FEWKES. It is reserved by the Government as a national monument under the Forest Service.

The CHAIRMAN. Do you keep a caretaker there?

Mr. FEWKES. That is only one ruin and a caretaker does not live there, but in the Mesa Verde National Park we have a superintendent.

The CHAIRMAN. After you reclaim that will you then have to have a caretaker?

Mr. FEWKES. We will have to have somebody nearby to see that vandals do not tear it down, and it would be advantageous, of course, to pay a bonus to somebody to look after it, under the direction of the Forest Service. But one small ruin would not, of course, need a very high salaried man.

The CHAIRMAN. You are able to make these improvements in the Mesa Verde National Park, in reclaiming these ruins, out of your regular appropriation of $42,000?

Mr. FEWKES. Yes; with the assistance of the National Park Service of the Interior Department. They gave me this year a sum of money, $1,300, for the Square Tower House and I have an understanding with them for $1,400 more. So that all it costs me are my expenses in going out there myself, my food going and coming and while I am in the park. We have nine men who do the work with their money. I think if you would look at those ruins and see the amount of work we put in them you would think we had really done a pretty good job with the very small sum of money we had.

Mr. BYRNS. Will you get any assistance from the Forest Service with reference to this Cliff House on the Apache Trail, Arizona? It is not in a national pork, is it?

Mr. FEWKES. No; there is no park. It is protected from vandals under their direction, but it is not what you would call a park.

Mr. BYRNS. You would then be able to get some assistance from that service in reclaiming it?

Mr. FEWKES. I might do that. But if I can not get it on my appropriation, I will try to get it somewhere else. However, I would rather do it as a part of the work of the bureau.

Mr. BYRNS. I was wondering, since it is not a part of the national park system, whether or not their funds would be available.

Mr. FEWKES. I should think they would be available if they so wished.

The CHAIRMAN. The committee stands in the position where it must meet, as far as it can, the normal requirements of services like this in order that the work may go on in a healthy way but at the same time meet the demands of the country for a reduction wherever possible. You are asking for an increase of $4,000. What can the committee do in cases like that?

Mr. FEWKES. You can simply say, "You can not undertake this new job," if you think it can not be done, because this is new work. Of course, this is only one proposition to be carried on with the increase, and it may be that I can accomplish this archaeological work with the same amount of money I have had in the last two or three years.

PURCHASE OF MANUSCRIPTS.

The CHAIRMAN. In 1919 you paid $5,018.75 for manuscripts, and I notice you are estimating $5,000 for next year?

Mr. FEWKES. Yes, sir.

The CHAIRMAN. You purchase manuscripts written by students of these subjects?

Mr. FEWKES. There is a number of people, you know, who are not in the employ of the Government but who prepare valuable manuscripts along certain lines of research that we can not carry on with our small appropriation, and so some of the manuscripts which we purchase are manuscripts from those gentlemen, we will say manuscripts on music, on languages, or something of that kind. Now and then there arises a chance to buy very rare old manuscripts that it is desirable to have in our library to be consulted by those who are interested in the study of the Indian, and we do not like to let an opportunity of that kind go because it makes our library so much more valuable for students. It is not a very large amount of money that is spent for old manuscripts, but most of that money goes for payment to those who have prepared manuscripts for us to publish in our reports and bulletins.

If you will allow me, I will say I have a map which shows the relative position of this particular ruin. It is down on the Salt River, right here [indicating], and here is the Mesa Verde, where we have a park, and here is a spot where I also want to work [indicating]. From a scientific point of view, I want to find the relationship of all those people, so that some day we can answer the questions that are ordinarily asked as to where they came from, who they were, how long they lived there, etc.

Mr. BYRNS. When was this ruin first called to the attention of the bureau; is it a recent discovery?

Mr. FEWKES. No; it has been known for quite a long time. It is not the oldest described; but it has been locally known, I think, for about 40 or 50 years.

The CHAIRMAN. It is not your intention to extend this so as to preserve or reclaim all of the ruins you discover?

Mr. FEWKES. No; certainly not. We want types of cliff houses because they are not all the same. There are great differences in cliff houses. The Chinese built houses in cliffs, and so did the people in France, and what we want to get are the different types of cliff houses, to see how they differ from others in the different parts of our Southwest.

The CHAIRMAN. Those you have reclaimed so far are of different types?

Mr. FEWKES. No; those three up in the Mesa Verde are of one type, but this one belongs to another type. We want to get the distinctive features of those types. For instance, this type has a very wonderful kind of a ceremonial room.

The CHAIRMAN. Why is it necessary, therefore, to reclaim in one park all of the same type?

Mr. FEWKES. Well, they vary a little, and when you get a person in the Mesa Verde Park, the more information you can give him the better. For instance, this particular ruin has a square tower, which is not the case with any of the others; and, then, this one has a room with the roof entire, and no other one has that. So there are features in each one which are different, although the type of architecture is the same. But this one near the Roosevelt Dam is of an entirely different type.

Mr. MAGEE. Is there any information as to who the people were who actually made these constructions?

Mr. FEWKES. Well, the American Indians, of course, with a particular development brought about by the way they lived. They were a farming people and had to build some place in which to put their crops, so as to get through the winter; and living in a place where there were stones available, they used stones as a means of construction, and so have developed along these lines; whereas the people out on the plains——

Mr. MAGEE (interposing). They must have had some degree of civilization?

Mr. FEWKES. Of course.

Mr. MAGEE. You stated before the white man came there?

Mr. FEWKES. Yes, sir.

Mr. MAGEE. What I was wondering was whether that was a comprehensive statement or whether it was some race, perhaps, before the Indians?

Mr. FEWKES. I do not think any race other than the Indians. The cliff dwellers simply had a cultural development of the North American Indians brought about by the peculiar environmental conditions in which they developed.

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

The CHAIRMAN. You are asking $7,500 for the cooperation of the United States in the work of the International Catalogue of Scientific Literature?

Mr. GUNNELL. Yes, sir.

The CHAIRMAN. That is your customary appropriation?

Mr. GUNNELL. Yes, sir; the same amount. The work is the same year by year, or approximately the same.

The CHAIRMAN. And you have about the same regular force of employees?

Mr. GUNNELL. The regular force, which is the same year by year.

The CHAIRMAN. And that force takes about $6,400?

Mr. GUNNELL. Yes; approximately.

The CHAIRMAN. And you require about $1,000 for supplies, special services, etc.?

Mr. GUNNELL. Yes, sir.

The CHAIRMAN. What does this International Catalogue of Scientific Literature consist of?

Mr. GUNNELL. It is an international cooperative enterprise in which all of the countries in the world took part before the war. It has been somewhat interrupted since the war on account of the fact that Germany, Russia, Austria-Hungary, and Poland were in default in their subscriptions, but in normal times all the principal countries in the world, 33 of them, cooperate in producing a catalogue of scientific literature. It consists of 17 volumes, and this is one of them [indicating].

The CHAIRMAN. Is that published every year.

Mr. GUNNELL. Yes, sir. It is published by the Central Bureau in London, which is supported not by any governmental appropriation but by the subscribers, but each country taking part in the enterprise furnishes the means for having the work done in its own country. For instance, this appropriation is for the United States. We do

about 10 per cent of the entire work of the International Catalogue of Scientific Literature; it consists of about a quarter of a million references each year and we do somewhere in the neighborhood of about 25,000.

The CHAIRMAN. Then this appropriation is spent for cataloguing the scientific literature produced in the United States?

Mr. GUNNELL. In the United States only.

The CHAIRMAN. Do you publish that?

Mr. GUNNELL. The manuscript is sent to London, together with the manuscripts from the other 33 countries, and there published.

The CHAIRMAN. And we contribute our part toward the expense of publication?

Mr. GUNNELL. No; simply for the preparation. The publication is paid for by the subscribers; the catalogue is sold and the subscription prices before the war just balanced the expense of publication.

The CHAIRMAN. Is the United States furnished copies of this catalogue for its depositories without expense?

Mr. GUNNELL. No, sir. The funds of the central bureau amounted to about $35,000 a year, just before the war, which balanced its expenditures. There are no free copies given; even the central bureau in London pays for its own copy which is used there, and this bureau has to pay for its copy. There was no profit in it at all, the expenses and receipts just balancing.

The CHAIRMAN. Then when the United States purchases copies for its depositories it must pay for them?

Mr. GUNNELL. Yes, sir; just the same as the other countries do. The British Government pays for its copies and even the German Government paid for all its copies.

The CHAIRMAN. In what languages are these catalogues published?

Mr. GUNNELL. In four languages, in English, French, German, and Italian.

Mr. BYRNS. What is the cost of the catalogue?

Mr. GUNNELL. $85 for 17 volumes every year, and this is one of the volumes. It is not a fair example because it is one of the larger volumes.

The CHAIRMAN. Your publication for the current year carries not only the new facts but also the facts listed in former catalogues?

Mr. GUNNELL. No; it is not a cumulative index in any sense; each year is supposed to be an index of the past year. On account of war conditions the publications are very far behind, but our work in this country is more nearly current. In other words, when the Central Bureau gets over its war difficulties each year will represent what was done in the calendar year previously.

The CHAIRMAN. Then in order to get a complete picture of all the catalogues you must take the catalogues of the past together with the catalogues of the current year?

Mr. GUNNELL. Yes; there is no cumulative index. That has been one of the plans, but on account of the expense it has been deferred, and I hope only deferred. It is hoped we will have a cumulative index at the end of every 10 years for the sake of libraries and historical students, but at present it is only for the current year.

Mr. BYRNS. Do I understand that 17 volumes of the kind you exhibit are issued each year?

Mr. GUNNELL. Yes, sir; covering all branches of science, mathematics, chemistry, physics, etc.

ASTROPHYSICAL OBSERVATORY.

The CHAIRMAN. You are asking $14,000 for maintenance of the Astrophysical Observatory, an increase of $1,000 over the amount appropriated for the current year.

Mr. ABBOT. This increase is to cover the increased cost of services. We have obtained a computer in place of a messenger whom we had formerly, and we have increased the compensation of one of the young men who now has the responsibility of the field work which I formerly carried on myself. Even so, the compensations of our Astrophysical Observatory employees, like those in the Bureau of Exchanges, which I spoke of a few minutes ago, are grossly inadequate. Our young men, if they should take the opportunity to go into commercial life, or even, perhaps, to other departments of the Government, could double or triple their salaries. But they keep on; they are enthusiastic in the work and in some miraculous way we keep them; I do not know why, but they stay with us.

I will call your attention, Mr. Chairman, to an item in the printing bill. We ask for $4,000 this year in place of the usual amount, for the purpose of publishing volume 4 of the Annals of the Astrophysical Observatory. This will be found in the printing item, but it is so related to the Astrophysical Observatory that I speak of it at this time. This will be the fourth volume of our annals. The first volume was published in 1900, the second in 1908, the third in 1913, and we now have a great deal of matter which is being eagerly asked for.

PRINTING.

The CHAIRMAN. You have a separate item for that?

Mr. ABBOT. That is in the printing appropriation, to be expended through the Government Printing Office. The people of this country as well as abroad are very eager to obtain the results which we have gotten in the last six years, so that continually we must make copies of long tables and of other matter in connection with it and send to them in order to meet their needs for researches. So it is very urgent to print this volume of the annals, of which the manuscript is now practically ready for the press or will be ready before this appropriation is made.

While I am speaking of the printing appropriation may I diverge a little bit to speak of the appropriation for the printing of the Smithsonian annual report volume? We are asking for a reappropriation of the balance left from the fiscal year 1919. We could not spend that money at that time, because, owing to the great press of war material, the Printing Office could not handle the Smithsonian Institution's annual report, so that there remained a balance of over $5,000 from that appropriation which we are asking to be reappropriated.

Mr. Chairman, to return to the Astrophysical Observatory it ought to interest you to know what it is and what good it is.

The CHAIRMAN. Where is it located?

Mr. ABBOT. It is located at the Smithsonian Institution, but it has an observing station on Mount Wilson, Calif., where we make most of the observations, which are reduced here in Washington. We have in connection with that also an observatory of the Smithsonian Institution located at Calama, Chile. That is not at Government expense, but is at the expense of the private funds of the Smithsonian Institution; but I look after the work which is done there.

Our work is of this nature: As you know, the earth is habitable only because it has a certain mean temperature ranging between freezing and the temperature of the blood. Not only so, but the growth of plants, food plants, depends on a very much narrower range in temperature, so that, for example, a change of 10 degrees Fahrenheit in mean temperature would make all the difference between growing apples and growing oranges in certain places. The temperature is maintained by the rays of the sun which shine upon the earth, interrupted, of course, in the passage through the atmosphere by clouds, dust, and the like, and by the molecules of the air itself. Then the earth is sending out rays in an equivalent amount, but these rays depend upon the temperature of the earth, so that you have at a certain temperature the balance between the incoming rays of the sun and the outgoing rays of the earth, both hindered by the atmosphere of the earth.

This question which is fundamental to the life and the growth of everything upon the earth is the main question which the Astrophysical Observatory investigates. It is the only institution in the world which is engaged in the thorough study of this problem. The Astrophysical Observatory, I repeat, is an unique institution. It is the only one in the world which carries on a thorough study of these things. We are asking in the current year for the establishment of a new station, at a cost of $25,000, and shall have to explain a little the reason for it.

The CHAIRMAN. Before you go to that, how much of the $13,000 do you expend for salaries and labor and what portion is spent for books, periodicals, etc.?

Mr. ABBOT. For the fiscal year 1920, in which we are now operating, the salaries will amount to $11,150, and for the fiscal year 1921 they will be, as I have said, a little larger. The balance is spent for the cost of materials, for the work in the field at Mount Wilson, and for various expenditures incident to the work, the purchase of reference books and periodicals, and for other matters, the necessary supplies, and the like.

FOR ESTABLISHMENT OF BRANCH OBSERVING STATION FOR MAKING DAILY OBSERVATIONS OF THE SUN.

The CHAIRMAN. You are asking for $25,000 for the establishment of a branch observing station. Where do you propose to locate this branch?

Mr. ABBOT. This station would be located in the most cloudless region of the United States, probably within a few miles of the town of Yuma.

The CHAIRMAN. Where is Yuma?

Mr. ABBOT. I do not at the moment recall whether it is in California or in Arizona; I think it is in California; it is right on the Colorado River. That is the town the funny men call the hottest place in the world. It is not so, but people think it is so. The Weather Bureau is investigating at the present time for us the cloudlessness and availability of several stations in that region to locate the station most suitably. The object and purpose of the work there would be to study the variations of the sum. It has been a principal discovery of our observatory that the sun is not constant, but is a variable star varying over a range of from five per cent even to sometimes ten per cent. These variations occur in short but irregular time intervals, so that next week perhaps, the radiation may be five per cent lower than it is to-day. The weather is likely to be changed and the temperature altered by these variations of the sun. This has been studied for some years now by the Argentine Weather Bureau.

Mr. Clayton, who was formerly at the Blue Hill Observatory at Boston and who is now the chief forecasting officer in Argentina, has made extensive study of all our measurements on the sun's radiation and the variability of the sun which we have been carrying on at Mount Wilson for something like 15 years. He finds from these that the variation in the weather of Argentina is largely due apparently to these variations of the sun and he has reduced this matter to a rule of forecasting. He employs these new elements of variability of the sun in actually forecasting in Argentina. For this purpose the Smithsonian private observatory at Calama Chile furnishes daily telegraphic reports of solar observations to the Argentine Weather Service. Mr. Clayton keeps a mathematical record of his successes and failures in forecasting and tells me that the record has shown a great improvement due to the introduction of this new element. The Weather Bureau in the United States has not as yet gone into this application of solar observations to forecasting, but the chief, Dr. Marvin, is extremely anxious to get other stations for the measurement of the radiation of the sun so that he may have a thoroughly good basis when he decides to go into the investigation. If we obtain only one observation by one station, a quarter of the time or half of the time being cloudy, we can not get a good basis for these investigations. Until there are several stations in the world where these measurements of the radiation of the sun and the variability of the sun are made, this basis can not be well determined.

So, we are asking for this appropriation of $25,000 for the complete establishment and equipment of this observing station with the very special kind of apparatus which we use, including the bolometer, an instrument which measures a millionth of a degree change of temperature, and the spectrum-recording apparatus, a very special and peculiar apparatus which we have developed for this work. This sum will be abundantly adequate, I think. If it exceeds what may be necessary we shall turn the balance back into the Treasury, but in these times it is difficult to estimate as closely as we could have done formerly, because the cost is so much increased.

The CHAIRMAN. You will need a building?

Mr. ABBOT. A building; yes, sir. I think we shall make this building a good deal underground so as to get a constant temperature.

It will probably need the improvement of a trail or road and we may have to develop water wherever the place will be. The buying of the equipment, the apparatus, will cost from $5,000 to $10,000, so I feel sure that the sum of $25,000, while it will be adequate, will not be very much in excess. Whatever excess there may be, if there should be any, we will turn back into the Treasury. This will imply that in future years we shall come to you with a request of from $8,000 to $10,000 annually as salaries of the observers at the proposed new station, for we propose to continue the work at Mount Wilson and in Washington on other problems.

We have a great many problems in mind in connection with the dependence of the temperature of the earth on the radiation of the sun and the earth and the hindrances which are in the atmosphere. They will keep a great many more observers than we have or ever hope to have busy for some lifetimes. The work which we propose at the new station is to take the place of what has formed a large part of our work hitherto, leaving us free to act on these equally important questions which we have in mind and for which plans are fully formed but which hitherto we have not been able to take up for lack of time.

I have several leaflets which I think may interest the committee. This leaflet shows the remarkable results which Mr. Clayton has been getting as indicating the dependence of the temperature at Buenos Aires, Argentina, on the radiation of the sun. The three curves shown on the paper indicate the march of the temperature for the 20 days next following the high valuation, the mean valuation, and the low valuation of the radiation of the sun. You can see there is a change of temperature of 6 or 7 degrees Fahrenheit, as much as 10 days after the event, due to the change of 5 per cent in the intensity of the radiation of the sun. There are certain other curious things about these dependencies. The little paper before you is the result of the mean of four years of study—that is to say, this was not an individual case, but the mean of, perhaps, 20 or 30 or 40 cases where the high value, the low value, and the mean value of the sun's radiation occurred. It seems to me definitely fixed that large changes of the temperature upon the earth were due to these changes in the sun and that owing to that the continuation of the effect through many days may be to a considerable extent predictable after we have gotten stations suitable for the daily examination of this question.

The Smithsonian Institution, through its private funds, as I have said, maintains a station in Chile and they have been able to observe there on about three-quarters of the days for the last year and a half. It is hoped that the Argentine Government, which has an extremely great interest in the matter, will take over that private station from the Smithsonian Institution, so that our private means will be freed to establish a similar station in Egypt. If that should be the case, then we would have a station in South America, a station in Egypt, and this one which we hope to establish in the neighborhood of Yuma, if the funds can be obtained, which, while not so generous a provision for solar observations as the Chief of our Weather Bureau desires, still to a considerable extent will meet the necessity for getting stronger values of the radiation of the sun and the variations of it.

The CHAIRMAN. Out of what appropriation do you maintain the station in South America?

Mr. ABBOT. The Smithsonian Institution has a private fund, called the Hodgkins Fund for the study of questions relating to the atmosphere and from this fund provision is made to keep up the observatory there. I speak of it since it has a sort of connection with the subject we are discussing, although not dependent upon Government money.

The CHAIRMAN. Have you not private funds for the establishment of this station at Yuma?

Mr. ABBOT. No, sir. The Secretary will bear me out that our private funds are in such a state that we hardly know how we are going to get to the end of this fiscal year.

The CHAIRMAN. You are not very far different in that respect from the public funds.

Mr. ABBOT. I realize that state, Mr. Chairman. However, I am not asking for billions like some people; I am only asking for a few thousands which to the Government is about as much as a tenth of a cent is to you or me.

The CHAIRMAN. You had a reappropriation for the observation of the total eclipse of the sun on June 8, 1918. How much did you expend out of the reappropriation?

Mr. ABBOT. We have now a balance available from the reappropriation of $196.25. This balance we have no expectation of using at all and all of it will be turned into the Treasury. There may be some light items against it, but I know of none.

The CHAIRMAN. How much did you expend under the reappropriation?

Mr. ABBOT. I can not recall the exact figure which was reappropriated. I think it was about $800, was it not?

The CHAIRMAN. It was not a large sum.

Mr. ABBOT. We used that in observing the total eclipse at Bolivia. We obtained very excellent results, which have been published by the Smithsonian Institution. We got a beautiful picture of the eclipse. I am sorry I did not bring it up with me.

The CHAIRMAN. You completed your observation under that reappropriation?

Mr. ABBOT. Yes, sir.

The CHAIRMAN. And the results are to be published by the Smithsonian Institution?

Mr. ABBOT. They have already been published.

LICK OBSERVATORY, UNIVERSITY OF CALIFORNIA,
Mount Hamilton, October 31, 1919.

DEAR DR. WALCOTT: I have learned of Dr. Abbot's desire and proposal that a new solar observing station be established on the summit of a low mountain in the vicinity of Bagdad, Calif., the most cloudless region in the United States, in order to supplement his extremely valuable series of observations now made at the institution's observatories located at Mount Wilson, Calif., and at Calama, Chile. As all astronomers know, the discovery that the output of the sun's energy is variable was made exclusively by Dr. Abbot, and the development of methods for the accurate and quick determination of the intensities of the varying radiations is the work of the Smithsonian Institution astronomers. Students of the weather are finding that a relationship exists between variations in the solar energy received by the earth and variations in the weather of the earth. It is of great interest and promise to learn that the Weather Bureau predictions of the Argentine Republic made by a

thoroughly trained American meteorologist based upon daily telegraphic reports of solar energy as measured by the Smithsonian Institution's station in Chile are meeting with success. It certainly is desirable that Dr. Abbot be given all possible facilities for the measurement of the solar energy as continuously as possible, representing as many days in the year as possible, and this means that he must have the advantage of several widely separated points of observation. The conditions are undoubtedly splendid at Bagdad in southeastern California, and I hope that means may be found to provide the equipment and observers desired by Dr. Abbot. The importance of accurate weather predictions in the United States and elsewhere is so great that expenses such as those required for the installation of the Bagdad station would be infinitesimal in comparison.

Yours, faithfully,

W. W. CAMPBELL, *Director.*

DR. CHARLES D. WALCOTT,
Secretary the Smithsonian Institution,
Washington, D. C.

THE UNIVERSITY OF CHICAGO, YERKES OBSERVATORY,
Williams Bay, Wis., October 14, 1919.

HON. CHARLES D. WALCOTT,
Secretary of the Smithsonian Institution,
Washington, D. C.

MY DEAR MR. WALCOTT: I am very glad to learn, in a letter that I recently had from Director Abbot, that a plan has been proposed for the establishment of a station at the cloudless point of Bagdad, Calif., for continuing the invaluable researches of the Smithsonian Astrophysical Observatory on the changes in the radiation of the sun. In my opinion, there is no more important study being made in astronomical science, reckoned by its possible benefit to the human race, than these studies of the heat received from the sun, initiated at the Smithsonian Observatory by Prof. Langley and ably continued and further developed by his successor, Dr. Abbot, and his assistants. The appropriation to be requested from Congress seems to me exceedingly moderate in comparison with the usual cost of installing an observatory, and the item for annual upkeep is also very low. I do not doubt, however, that the estimates are so carefully made that the expenses can be kept within these limits.

If a committee on agriculture were to consider such a question, namely, of attempting to find the laws governing these changes in the amount of heat received from the sun, amounting in some cases to 10 per cent, I can not conceive that they would not appropriate very much greater sums, when they think of the dependence of the agricultural interests upon the sun, upon which also depends in large measure the weather.

The question might be raised, Could the human race exist without the use of steam power? The answer is, It certainly could, for it has so existed for thousands of years without steam power. Then, Could the race exist without coal? It certainly has for thousands of years, and could, if it had to. But without the sun's heat and light our planet could not maintain life for the shortest period; the effects would begin to be felt in 10 minutes. Now, if the sun's heat is so indispensable to the human race, can we imagine that those intrusted with legislation would not see the importance of determining the laws of its variation? Only prolonged and most arduous research and study can solve this problem—such research as has been carried on by the officers of the Smithsonian Astrophysical Observatory for many years, and by them almost alone in the world of science.

If the committee having charge of the mining interests of the country was approached for a small appropriation to study methods by which variations of from 5 to 10 per cent in the production of coal could be brought about, it can not be imagined that there would be any hesitation in making the necessary appropriations and initiating the researches at the earliest possible moment. The argument is only stronger when we consider that the sunshine is free for all, shining alike on the just and the unjust; that it can not be exploited for the benefit of any particular group of promoters. This very fact that such researches can not be capitalized for the benefit of special interests makes it a reason why the support of Congress, the guardian of the interests of the whole

people, must be asked. If the sun's heat could be "cornered," there is no doubt but that plenty of companies would be organized with capital enough to erect 10 observatories instead of the one for which you are asking.

If the paramount importance of researches of this sort is understood, I am sure that you may count on the full support of the legislative bodies concerned.

Very truly, yours,

EDWIN B. FROST.
Director of the Yerkes Observatory.

MOUNT WILSON SOLAR OBSERVATORY,
Pasadena, Calif., October 22, 1919.

DR. CHARLES D. WALCOTT,
Secretary Smithsonian Institution,
Washington, D. C.

MY DEAR DR. WALCOTT: I am greatly pleased to learn from Dr. Abbot that there is a possibility of the establishment of a branch of the Smithsonian Astrophysical Observatory in the region of Bagdad, Calif. The remarkable work already accomplished by Dr. Abbot and his assistants on Mount Wilson, where he has demonstrated beyond question that the sun's radiation is variable, has convinced all astronomers of the value of his observational methods. It now appears probable, from the application of such results already made by Mr. Clayton in South America, that weather forecasting in the United States can be placed on a solar basis for the first time if measurements of the solar radiation can be continued throughout the year.

On Mount Wilson the rainy season interferes seriously with such observations during the winter months. An additional station, in a region free from clouds at that period, is essential if the method is to be given a fair trial. I therefore trust that Congress may see fit to make an appropriation for this purpose, and I am sure that astronomers and meterologists, in this country and abroad, will concur in this hope.

Very sincerely, yours,

GEORGE E. HALE, *Director.*

NATIONAL MUSEUM.

FURNITURE, FIXTURES, CASES, ETC.

The CHAIRMAN. You are asking "For cases, furniture, fixtures, and appliances required for the exhibition and safe-keeping of collections, including necessary employees," $25,000, which is an increase of $5,000 over your current appropriation?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. What is the balance of your current appropriation?

Mr. RAVENEL. On December 31, the balance was $7,791.96, nearly $8,000.

The CHAIRMAN. You will get through the year with your current appropriation?

Mr. RAVENEL. This year?

The CHAIRMAN. Yes, sir.

Mr. RAVENEL. We have estimated to get through exactly on that appropriation.

The CHAIRMAN. You would be likely to get along with a similar appropriation for next year, would you not?

Mr. RAVENEL. Realizing very fully the very heavy burdens on the country in the way of taxation I was very much opposed to asking that we be given the same sum that we had for years before the war—it was cut during the war on account of a part of the building being closed—I called upon the curators and other officers and asked

them to give me an itemized statement of what was really needed for the fiscal year 1921 as far as they could tell at that time. Their estimate was $35,981, which I reduced to $25,000 as the amount that we ought to have for the proper conduct of the Museum. The exhibition cases, storage cases, and containers are necessary for providing for the care, preservation, and display of the exhibits that are received from the various executive departments and other governmental activities, exploration parties sent out by private individuals and corporations, and the Smithsonian Institution, and gifts and loans from individuals, which last year amounted to over 500,000 specimens.

The CHAIRMAN. This appropriation is asked for then to take care of the accumulation during the year?

Mr. RAVENEL. To take care of the accumulation during the year; yse, sir.

The CHAIRMAN. You have no surplus of cases for that purpose?

Mr. RAVENEL. Whenever we have an old case that it is possible to remodel and use, it is used. During the past year we condemned and disposed of only 9 pieces out of over 11,000. We acquired 4 exhibition cases and 199 pieces of storage, laboratory and other furniture. There are no increases in salary asked for. The salaries of the mechanics on this roll are very much lower than for men of the same capacity in the outside world.

The CHAIRMAN. Do you construct your own cases?

Mr. RAVENEL. We have been compelled since early in the war to construct most of them. Occasionally we can get a bidder who is willing to construct them at a reasonable price.

The CHAIRMAN. What has been your experience as to the relative cost of purchasing these cases and constructing them yourselves?

Mr. RAVENEL. At times we have found it very much cheaper to construct them by contract and at other times the reverse. Prior to the war we invariably got bids for the construction of cases. If we could do better in the shop we rejected the bids and made the cases in the shop. The steel cases are all made on the outside.

The CHAIRMAN. You have a shop and equipment in which you can make these cases?

Mr. RAVENEL. We have an excellently equipped shop.

The CHAIRMAN. You are expending the appropriation for cases largely for those which you make in this shop?

Mr. RAVENEL. We are making the wooden storage cases and covering them with a light metal so as to fireproof them and reduce the danger from fire.

The CHAIRMAN. You maintain a shop personnel of about nine or ten persons all the time?

Mr. RAVENEL. We have a regular roll of nine men. We have added one in the estimate for 1921 because of the difficulty of getting the work done outside. We used to do a great deal of the work outside.

FOR HEATING, LIGHTING, ELECTRICAL, TELEGRAPHIC, AND TELEPHONIC SERVICE.

The CHAIRMAN. "For heating, lighting, electrical, telegraphic, and telephonic service" you are asking $70,000?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. This year you had a regular appropriation of $55,000 and a deficiency of $14,715. How are you getting along with the appropriation for the current year?

Mr. RAVENEL. It will carry us through the year.

The CHAIRMAN. It will carry you through the year?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. Will you have any balance?

Mr. RAVENEL. It is very hard to say at the present time. Up to January 1 we had expended $32,000, but, of course, the heaviest expenditures for fuel are during the months of January, February, and March.

INCREASED COST OF COAL.

The CHAIRMAN. Have you had to pay an increased price for fuel this year as compared with last year?

Mr. RAVENEL. This year we are paying $6.36 to $6.56, I think, dependent upon whether it is New River coal or some other coal. New River coal is the best, and we get it whenever we can.

The CHAIRMAN. You spent in 1919 $18,411.13 for coal and wood?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. Whereas next year you estimate that the requirements will total $28,000, an increase of nearly $10,000?

Mr. RAVENEL. The additional $10,000 is on account of the Freer Building. You remember in my hearing on the deficiency bill I said that we would have to have 700 tons of soft coal and 500 tons of hard coal in order to heat, light, and ventilate the Freer Building, at a total cost of over $10,000.

The CHAIRMAN. For the year?

Mr. RAVENEL. Yes, sir. Mr. Chairman, in this connection I beg to say that we can reduce the annual expenditure for heat and light for all of the buildings by $5,000 by the installation of two additional boilers, which will cost $23,000, and we can also cut off $500 for labor. We have not brought that item in for the reason, as I explained before, that I did not believe the committee would wish to increase the appropriation materially. Running on the present basis we will require just that amount of coal.

The CHAIRMAN. From what heating plant do you heat the Freer Building? Is there a plant in the building?

Mr. RAVENEL. No, sir; from the Natural History Building of the Museum. This plant at the foot of Tenth and B Streets NW., which is the central plant, is used in heating both of the National Museum Buildings and the Smithsonian Institution and outlying buildings, but it has not sufficient capacity to heat and light all of these buildings and heat and light the Freer Building, so we were obliged to arrange to take an amount of coal to operate the old heating plant, which is located in the Arts and Industries Building, for four months during the winter.

The CHAIRMAN. Have you opened the Freer Building?

Mr. RAVENEL. No, sir. It will be practically completed in the interior within the next month. Some of the material has been sent on and is being installed.

The CHAIRMAN. Do you have to heat it?

Mr. RAVENEL. Yes, sir: we have heated it ever since last July. That helped to dry it out. During the winter months it was absolutely necessary to heat it because of the large number of employees working there.

The CHAIRMAN. What other buildings, aside from the Freer Building, will you heat during the next fiscal year that you did not maintain in 1917?

Mr. RAVENEL. The only other building is the metal temporary structure turned over to us by the War Department. That building will be heated.

The CHAIRMAN. That is not a very large building?

Mr. RAVENEL. Only about 15,000 square feet of space.

The CHAIRMAN. For 1915, 1916, and 1917, you had an appropriation each year of $46,000.

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. Of course, the price of coal has gone up somewhat.

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. And you have taken on the Freer Building?

Mr. RAVENEL. Yes, sir. Coal went up from $3.41, in 1917, delivered in our bins to $6.50 in 1918. That is the highest we paid until the war. Last year we paid as much as $7.19 for coal delivered in the bins.

The CHAIRMAN. You think you will require all of this $70,000 for next year?

Mr. RAVENEL. Yes, sir; I am afraid we will. If coal remains at the same price, we will get through, but if it goes higher, we will not. I would like to call attention to the employees on this roll. We pay plumbers from $90 to $100 per month, and assistant engineers $100 per month; but some of the other Government departments are paying $1.400, $1,500, and $1,600 a year. That is what some of the new departments are paying. We have been paying $75 a month to firemen, and it frequently takes three or four weeks to get a man to accept one of those positions.

The CHAIRMAN. The committee realizes the hardships which some of the establishments of the Government experience in employing mechanics and laborers, because the statutory roll does not carry the same salaries that are paid in other departments. It is believed that the work of the Reclassification Commission, if it is as fair as it ought to be, will correct that abuse and will equalize the salaries paid in the various departments of the Government, so that that difference in the salaries paid for similar employments will not exist in the future. However, it is almost impossible for this committee to take up that subject independently while it is being thrashed out in a sort of scientific way in an attempt to arrive at a fair basis.

Mr. RAVENEL. We have made no recommendation for an increase of these salaries.

The CHAIRMAN. Your estimates are on the present rates of pay?

Mr. RAVENEL. Yes, sir; the reason we have had so much difficulty in getting mechanics for the Freer Building is because we must keep the same rates there that we do in the other buildings. We can not put on new men and pay them more than the old employees.

CONTINUING PRESERVATION, EXHIBITION, AND INCREASE OF COLLECTION.

The CHAIRMAN. For continuing preservation, exhibition, and increase of collections from the surveying and exploring expeditions of the Government, etc., you are estimating $312,620, as against your current appropriation of $300,000. That is an increase of $12,620.

ADDITIONAL EMPLOYEES FOR THE FREER BUILDING.

Mr. RAVENEL. The $12,620 represents the cost of the employment of 17 persons for the Freer Building when it is opened, namely, 1 picture hanger, at $1,200; 1 clerk, who will have to be a stenographer, $1,200; 8 watchmen, at $720; 2 laborers, at $660; 1 female attendant, at $480; and 3 charwomen, at $240. That totals up to a little over $11,000, and the balance would be for the necessary supplies for the Freer Building, such as cleaning materials, etc.

The CHAIRMAN. How many employees will you have?

Mr. RAVENEL. Seventeen employees.

The CHAIRMAN. Will you need all of them?

Mr. RAVENEL. We will need them as soon as the Freer Building is opened. We will need some of them before it is opened in order to keep the building clean.

UNEXPENDED BALANCE.

The CHAIRMAN. How much of your appropriation of $300,000 have you expended to January 1?

Mr. RAVENEL. On December 31 we had $150,170.18, or practically half of it. The regular pay roll of the National Museum, excluding the Freer Building, is approximately $281,000 or $282,000, depending on whether we have all of the places filled. You will notice that in 1919 our salary roll was very much less, which was due to the fact that we had a great many unfilled positions. The Bureau of War Risk Insurance took over a certain number of watchmen, laborers, and charwomen; and, of course, the money was not spent. I beg to say in connection with that appropriation that when we were before the committee last year we were asked why that money should not be taken from the appropriation and turned back into the Treasury, and I explained that the Museum had undertaken to bring together a war museum, and that that money would be used for the transportation of material for the exhibit and their installation, but I am glad to say that on account of the splendid cooperation of the War Department we did not have to pay any transportation from Europe to the United States, because the material came back on Government transports, and the collection was assembled entirely by officers of the various corps here and abroad.

The CHAIRMAN. Do you have any employees in this small building that you have opened for the exhibition of aircraft?

Mr. RAVENEL. No, sir.

The CHAIRMAN. You will not need any?

Mr. RAVENEL. We will have a watchman circulating there, as we expect to have a great many people in there. We are now making the changes that the appropriation covers.

The CHAIRMAN. There are no attendants in the building?

Mr. RAVENEL. I have one of my foremen over there to look out for the various jobs going on there. He has other duties to perform, and he was simply detailed there temporarily. It is not our intention to ask for anyone there. The Aviation Service has been most helpful in sending men to make repairs to the wings and set them up. They have aided us in every way possible. The men were detailed from Bolling Field.

Mr. BYRNES. When will the Freer Building be opened?

Mr. RAVENEL. Some time next fall, I hope. The building will be certainly opened and the installation will be well advanced by that time.

Mr. BYRNES. Will you need this force for the entire fiscal year?

Mr. RAVENEL. We will not put on anybody until we have to use them.

Mr. BYRNES. You will not need all of this personnel for the entire fiscal year, will you?

Mr. RAVENEL. We will probably put on the watchmen and charwomen about the 1st of July, if it is possible. I do not think we will put on the others then. We will not put on the others until it is absolutely necessary.

COLLECTION OF WAR MATERIAL.

I would like to report that our war collections, undertaken in 1916, have grown very rapidly, and we have between 30,000 and 40,000 objects, which include, in a general way, examples of practically every kind of equipment used by the American forces, and, also, an example of everything developed by them. The same thing is true with reference to some of the foreign countries, particularly in the matter of uniforms and insignia from England, France, Belgium, Italy, and a great deal from Germany. We are taking care of this material, storing the exhibits in certain parts of the Natural History and the Arts and Industries Buildings. By June 30, I believe we will practically have a complete exhibit of almost every kind of military equipment. That has been possible only through the cordial cooperation of the Secretary of War and the Secretary of the Navy, General Pershing, the Quartermaster General, and the General Staff.

The CHAIRMAN. A good deal of this material you do not house at all.

Mr. RAVENEL. The captured material, that is, the big guns are not housed, but the other things are housed. A great deal of it is on exhibition, and we have been obliged to store other portions of it because we have no place to exhibit it.

The CHAIRMAN. Where do you have it on exhibition? Is it on exhibition at the National Museum?

Mr. RAVENEL. In both buildings of the museum and the metal building, as soon as it is completed, will be used for the aviation exhibits.

NATIONAL GALLERY OF ART.

The CHAIRMAN. The Freer Building will be used only for the art collection.

Mr. RAVENEL. It will be used only for Mr. Freer's art collection. I want to call your attention to the National Gallery of Art,

of which the Freer collection forms a part. The gallery has grown tremendously in the last few years, and we have to-day over 900 objects, including paintings, statuary, and other art objects that belong to the Government. They have been given to the Government for the National Gallery of Art, which is at present housed in the Natural History Building. It is in such cramped quarters that we have now reached the point where we are obliged to refuse to accept loans of any kind. Last summer, we received one gift comprising 24 European Old Masters, valued at hundreds of thousands of dollars. It is really a very serious problem that we have not more space for the National Gallery of Art, as it prevents our holding temporary exhibits of pictures by American and other artists. Temporary loans of works of art frequently remain as gifts. The 24 pictures that I have referred to were on exhibition or a number of them as loans in the gallery for a number of years, when the owner decided, during his lifetime, to donate them to the gallery. When we take into consideration these pictures and those that we acquired through the Harriet Lane Johnson bequest, those presented by Mr. William T. Evans, and the unrivaled collection of oriental art and American paintings presented by Mr. Freer, you will appreciate not only how the collection of the National Gallery of Art has grown, but that it is comparable to-day with the leading art galleries in the United States.

The CHAIRMAN. How many objects are there in the Freer collection?

Mr. RAVENEL. We have 6,000 recorded, and there are probably a few others that will come on from Detroit that have not been recorded.

The CHAIRMAN. Will this building house no other exhibits except the Freer collection?

Mr. RAVENEL. No, sir.

The CHAIRMAN. All the other art collections coming to the Smithsonian Institution will be in the National Gallery of Art?

Mr. RAVENEL. Yes, sir. It is hoped that this committee will give us in the near future a building for the National Gallery of Art. We have to-day 90,000 square feet, and in 10 years from now we will need over 150,000 square feet of additional space.

The CHAIRMAN. What is the size of the collection outside of the Freer collection?

Mr. RAVENEL. There are over 900 objects.

The CHAIRMAN. Does that include the loans?

Mr. REVENEL. That does not include any loans, but only the property that we actually control. The Government owns over 900 objects in the National Gallery of Art.

The CHAIRMAN. What is the size of the collection that has been loaned?

Mr. RAVENEL. I can not give you the exact number of the loan collections. We are returning many of them and are refusing to accept other loans. We have been obliged to do it. The space is not now sufficiently large to take care of the things that belong to the Government and also the large loans offered to us.

FOR PURCHASE OF OBJECTS OF ART FROM INCOME OF FREER ESTATE.

The CHAIRMAN. Will the Freer collection be augmented by future purchases from the Freer estate?

Mr. WALCOTT. Mr. Freer, in his will, left his residual estate to the Smithsonian Institution, the income from which was to be used for the purchase of objects of Eastern or near-Eastern art, to be added to his collections, every object to be subject to the approval of a committee of specialists and the Fine Arts Commission. In event of there not being any objects of Oriental art which were desirable to purchase the income could be used for the purchase of objects of pottery, sculpture, or paintings by American artists. This residual estate will approximate $2,000,000, which will be invested and the income used for the purposes outlined by Mr. Freer. There is another matter about which I might speak in connection with the Freer Building and the Freer collection. The Freer collection is so extensive that it is planned to place on exhibit a certain series of objects, paintings, pottery, porcelains, statuary, marble, and bronze, and to change the exhibit every three or six months, so that instead of the public going through the building and seeing the same objects year after year they will see a change of objects. That can be done at least four times before the collection is exhausted. During the meantime all of those objects will be in storage rooms where they are available for students or any specialists who wish to utilize them. The basement of the building contains large rooms which will be available for the use of students from America or Europe, or wherever they may come from. Mr. Freer has not only made provision for the use of those collections but for the employment of some one to take care of them and teach students.

The CHAIRMAN. Then there will be some force in addition to your regular statutory force?

Mr. WALCOTT. Mr. Freer's will provides for this technical personnel which will be there to look after the collections, and do that from the purely artistic point of view, but he provides nothing for the care and maintenance of the building as such.

Mr. RAVENEL. I would like to tell you of another gift to the National Gallery of Art. Henry Ward Ranger, an eminent American landscape painter, who died on November 7, 1916, left something over $200,000 to the National Academy of Design, the income of which is to be used for purchasing paintings by American artists, the paintings so obtained to be given to art and other institutions in America maintaining a gallery open to the public, upon the express condition that the National Gallery of Art shall have the right to take, reclaim, and own any picture for its collection, provided such option and right is exercised at any time during the 5-year period beginning 10 years after the artist's death and ending 15 years after his death. This went into operation last year, and we got one picture, and this year we have gotten two. The officers of the National Academy of Design have agreed to notify us whenever they purchase pictures, and we get members of our advisory committee in New York to examine the pictures and decide whether they are of sufficiently high quality for the national gallery, and they turn them over to us instead of waiting until after the artist dies.

Mr. WALCOTT. I do not want to take up the time of the committee, but there is another very interesting item. After the beginning of the peace conference there was an organization formed in New York—a voluntary organization—that wished to have paintings made of all the principal individuals connected with the war and the peace conference. This is entirely voluntary, and is to be done by private subscriptions. Then they asked whether those paintings, if of suitable artistic quality, would be accepted for the National Gallery of Art as a historical portrait gallery, and after a thorough understanding they were told that they would be acceptable. At the present time paintings have been made of quite a large number of the leading officers of the armies and of the leading civilians connected with the peace negotiations, and, I think, within a year—possibly within this year—the series will be completed. I know that the paintings of the King and Queen of Belgium are completed, and paintings of Marshal Foch, Sir Douglas Haig, and a number of them are already completed. It is the purpose to bring those to this country, or some of them, and have them on exhibit, say, in Boston, New York, Chicago, in the Mississippi Valley, and on the Pacific coast, and then they will ultimately come here and be turned over to the National Gallery of Art. It will be the finest historical series of that kind that could possibly be obtained. All of that expense is provided for by the subscriptions of people who are interested in the movement.

Mr. RAVENEL. There is not a paid employee especially for the National Gallery of Art. The curator, who looks out for the gallery work, is Mr. W. H. Holmes, who is at the head of the department of anthropology, and he does that in addition to his other duties.

The CHAIRMAN. You are going to have quite an art gallery pretty soon?

Mr. WALCOTT. I think we will have an art gallery that will rank favorably, considering its lifetime, with any collected in the same time.

FOR REPAIRS OF BUILDINGS, SHOPS, ETC.

The CHAIRMAN. You are asking $10,000 for repairs of buildings, shops, and sheds, etc.?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. That is your customary appropriation?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. Will you expend all of your appropriation this year?

Mr. RAVENEL. We will.

The CHAIRMAN. What is the value of the buildings on which these repairs will be made?

Mr. RAVENEL. The value of the natural history building is $3,578,000, the arts and industries building $315,000, and of the Smithsonian building $315,000. The wooden structure for shops and laboratories, $2,000.

FOR PURCHASE OF BOOKS, PAMPHLETS, AND PERIODICALS FOR REFERENCE.

The CHAIRMAN. For the purchase of books, pamphlets, and periodicals for reference you are asking $2,000, which is your customary appropriation?

Mr. RAVENEL. Yes, sir.

The CHAIRMAN. Do you expend all of that?

Mr. RAVENEL. Yes, sir. This is simply for books of reference, which are the tools for the scientific staff for use in classifying specimens. We do not duplicate the books in the Congressional Library or any other library.

POSTAGE STAMPS.

The CHAIRMAN. For postage stamps and foreign postal cards you are asking $500?

Mr. RAVENEL. Yes, sir; that is the usual appropriation, and that is needed for foreign correspondence, mailing of books, etc.

The CHAIRMAN. And you expend that amount?

Mr. RAVENEL. We expend the whole $500; yes, sir.

NATIONAL ZOOLOGICAL PARK.

The CHAIRMAN. Mr. Hollister, you are asking $130,000 for the National Zoological Park, which is $15,000 more than you had for the current year. How much of your current appropriation did you expend during the first six months?

Mr. HOLLISTER. On the 1st of February our balance was $47,280, so that we have spent about our apportioned $9,500 a month for the first seven months of the year.

The CHAIRMAN. Will you require your entire appropriation this year for these purposes?

Mr. HOLLISTER. Yes, sir.

The CHAIRMAN. Why is it necessary to have $15,000 more for the next year?

Mr. HOLLISTER. Mr. Chairman, prior to the war, or at least until 1911, when the appropriation was first raised to $100,000, it was recognized that there should be a balance of from $10,000 to $15,000 above actual maintenance for repairs and minor improvements and care of the park. The cost of maintenance has so rapidly increased each year that in 1918 virtually the entire $100,000 was necessary for maintenance.

In 1919 the appropriation was increased to $115,000 for the first time, but the cost of maintenance during the year reached a sum greater than ever before and it was only by the practice of the greatest economy in every department that a small amount was made available for really necessary permanent improvements. This year we only have $1,675 above actual maintenance where as it is recognized we should have from $10,000 to $15,000 for that purpose. This is all due to the increase in the cost of maintenance. We must neglect the park and leave a great deal of work undone; and if the park is to be kept up to its regular prewar standard the maintenance for 1921 can not be estimated at less than $122,744.80, leaving us out of an appropriation of $130,000 about $7,000 for unforeseen expenses, minor improvements and repairs, and purchase and transportation of animals.

The CHAIRMAN. All of the expenses of the National Zoological Park, including the improvement of roads, the heating and lighting of the buildings and the purchase and maintenance of animals, are paid out of this appropriation?

Mr. HOLLISTER. Yes, sir.

The CHAIRMAN. Do you sell animals occasionally?

Mr. HOLLISTER. We exchange animals.

The CHAIRMAN. But you do not sell them?

Mr. HOLLISTER. We dispose of them through substantial and recognized dealers with whom we have exchange accounts, and we are furnished with other animals for the park from the proceeds.

The CHAIRMAN. What is the condition of the park, so far as the variety and number of animals there now is concerned, as compared with 8 or 10 years ago?

Mr. HOLLISTER. We have, perhaps, a much more valuable collection but not quite so large. The numbers there now are about what they were from 12 to 15 years ago and slightly less than they were a few years ago.

The CHAIRMAN. But a larger variety?

Mr. HOLLISTER. A larger variety and a much more valuable collection. In 1912 we had the largest collection at any time in the history of the park, while now the number of animals is about equal to the number maintained during the period from 1904 to 1908.

The CHAIRMAN. And how many have you there now?

Mr. HOLLISTER. Between 1,300 and 1,400; on July 1, 1919, we had 1,336 animals in the park.

Mr. BYRNS. How does this park rank, in variety and value of animals, with other parks in the country?

Mr. HOLLISTER. Well, just at present we are very fortunate because we have kept our collection; I think our death rate is much lower than in any other park in the world—very much lower. During the war the importation of animals was almost stopped, the animals not being obtainable, but we have been able to keep our collection up to a standard condition without any serious gaps, whereas most of the parks have suffered very much. So, at present, I suppose, we have the finest collection of mammals of any park in the world. Of course, other parks have much finer collections of birds and reptiles, simply because we have no place to keep them. In the parks that have fine bird houses, like Philadelphia, New York, and Boston, the numbers of their collection will run away up into the thousands because they have so many small birds. Our bird house is very small, and we do not pretend to have a very large collection of small birds. However, we have many valuable birds and a fine collection of waterfowl and outdoor birds.

The CHAIRMAN. It has seemed to me that the collection of bear is not as good as it was a few years ago.

Mr. HOLLISTER. The very largest bear, of course, is gone, but aside from that I think it is a splendid collection of bears and probably the best in the world. Of course, the loss of the largest Alaska bear makes a big gap in the collection. We now have 27 bears representing 16 different varieties.

ADDITIONAL EMPLOYEES.

The CHAIRMAN. Do you estimate for an increse in the wages of the guards and workmen?

Mr. HOLLISTER. No increases for position but a raise for some of the lower-paid mechanics, keepers, and laborers to the wages now

received by older men doing the same work. About $355 a month is added to the pay roll and that provides for two additional policemen, one additional keeper, one additional laborer and one additional attendant, and a very slight increase for some of the keepers in order to bring them up to the scale of the higher-paid and older keepers, those men who are now entitled to promotion and who have been there for several years.

The CHAIRMAN. What are you paying policemen?

Mr. HOLLISTER. $80 a month.

The CHAIRMAN. And in addition to that they get the bonus?

Mr. HOLLISTER. Yes, sir. We need two additional policemen there very badly. The attendance at the park is increasing constantly until this year it will run considerably over 2,000,000 people. We frequently have 20,000, 30,000, 40,000 or 50,000 people there in a day and we only have eight policemen for the entire 24-hour period, which is a rather dangerous situation. We should have more men.

The CHAIRMAN. You allow certain articles to be sold in the park at little stands?

Mr. HOLLISTER. One stand.

The CHAIRMAN. Only one stand in the park?

Mr. HOLLISTER. Yes, sir.

The CHAIRMAN. Do you sell that privilege?

Mr. HOLLISTER. That privilege has never been sold; the same people run that stand who started it when the park first began, in a small tent. They still have the contract and are paying no rental.

The CHAIRMAN. They pay no rental?

Mr. HOLLISTER. No, sir; but we control the prices as there is no rental paid. Of course, for many years the business was not great enough so that they could pay a rental but it has reached a point now where it should pay a rental to the Government.

The CHAIRMAN. You have no income, then, from any source except your appropriation?

Mr. HOLLISTER. No, sir; except the appropriation and what we get from the exchange of surplus animals, which last year amounted to a little over $3,200. So far this year we have sent away about $1,800 worth.

The CHAIRMAN. And you get in animals of corresponding value each year?

Mr. HOLLISTER. Yes, sir.

The CHAIRMAN. You maintain the roads and paths in the park?

Mr. HOLLISTER. Yes, sir; everything in the park.

The CHAIRMAN. How many acres are in the park?

Mr. HOLLISTER. One hundred and sixty-nine. The care of the fence, and everything within it, comes out of this appropriation.

FOR CONSTRUCTION OF A PUBLIC RESTAURANT BUILDING.

The CHAIRMAN. You are asking $65,400 for the construction of a public restaurant building?

Mr. HOLLISTER. Anyone who is familiar with the restaurant building now in the park, of course, knows that this is one of the most urgent needs of the park. The present restaurant is a wooden stand built many years ago and is now in a very bad state of repair. It

was built when the attendance at the park was 300,000 people, or something like that, and it has probably caused more unfavorable comment than any one feature of the park. It is proposed, if this new restaurant building is constructed, that it be leased, and it is expected that there will be considerable income to the Government from it.

The Bronx Park, in New York, received during the calendar year 1918 $14,000 for the privileges, and the St. Louis Zoological Park has a stand, 16 by 16 feet square, selling only soda, cigars, and package goods, and they estimate the rental value of that at $5,000 a year. With our attendance larger than any other park in the world—as I say, running over 2,000,000 for this year; it has been over a million now for four years, and last year was nearly 2,000,000—a first-class restaurant would pay a considerable rental, and I think we should let it out to the highest bidder, subject to the approval of the Secretary of the Smithsonian Institution. So this is in the nature of an investment, as it is expected that the restaurant will pay for itself in time, and it is certainly needed. I think that anyone who has tried to be served at that old stand on Sundays, holidays, or any busy day will realize that it is a disgrace to the park. The municipal architect has made preliminary drawings and estimates on this to the best of his ability, and I think he has expressed what we wish very clearly. It is a stone and cement building, with a tile roof.

The CHAIRMAN. How large a building?

Mr. HOLLISTER. One hundred feet long by 50 feet wide, with two stories. There will be two entrances, one coming up from the path leading from the sea lions and one on the main road.

Mr. BYRNS. This will be in the same locality of the present stand?

Mr. HOLLISTER. Right where the present stand is.

The CHAIRMAN. What is the amount of rental you would expect to get?

Mr. HOLLISTER. That we can not tell at present, because we have never rented the park restaurant; but, as I say, this little 16-foot-square stand in St. Louis is considered to be worth $5,000 a year, and they base that on offers they have had made for the privilege. I presume we could start with a low rental and increase it from bids as we found out what it was worth. Undoubtedly if such a restaurant was built there it would be used much more than the present stand, and it would be a place where you could get meals of chops, potatoes, etc.—something more than soft drinks and ice cream. Under first-class management it should become very popular, because it would be right on the main automobile road and driveway through the park system. At present there are many days when you simply can not be served at the old stand; the crowds about there are very great, and people can not reach the counters. It is a very urgent need.

FOR PURCHASE, BY CONDEMNATION OR OTHERWISE, OF CERTAIN LANDS.

The CHAIRMAN. You are asking $80,000 for the purchase, by condemnation or otherwise, of certain pieces and parcels of land lying between the present western boundary of the National Zoological

Park and Connecticut Avenue. This is similar to an estimate you have made for several years past, is it not?

Mr. HOLLISTER. In 1913 Congress appropriated money for the purchase of this land, but the condemnation proceedings were so delayed that before they were completed the money lapsed and there were no funds available for the purchase of the land. This has been asked for every year since, but the money has not been reappropriated.

The CHAIRMAN. I notice that in 1918 you estimated $175,641.43, while this year you are only estimating $80,000. Is that for the purchase of the identical land?

Mr. HOLLISTER. Two years ago Mr. Sherley suggested that we reduce the area. We had before asked for the entire strip from Cathedral Avenue to Klingle Road, but, acting on his suggestion, the area marked in blue on this map is what it is now contemplated to purchase, whereas before the money was appropriated for the purchase of this entire land [indicating]. This gives us a reasonable and necessary frontage on Connecticut Avenue at the main entrance. This road between the park and Connecticut Avenue [indicating] has not been built yet; it belongs to the District; the land has been purchased for a road, but it has not been built.

The CHAIRMAN. What is the distance between this proposed road and Connecticut Avenue?

Mr. HOLLISTER. It is about 100 feet. This is the principal entrance to the park, near Cleveland Park on Connecticut Avenue; a narrow road runs from Connecticut Avenue to the park, and all the other land, except the undeveloped roadway between Connecticut Avenue and the park, is privately owned. Development has now reached this point on Cathedral Avenue [indicating] and they are now building a large apartment house on Cathedral Avenue on the west side [indicating]. This land purchase can not much longer be delayed, because it will not be long before the principal entrance to the park will be lined by drug stores, peanut stands, and the like.

The CHAIRMAN. Do you know what that land can be purchased for?

Mr. HOLLISTER. The entire area marked in blue on that map can now be purchased for the sum asked, $80,000.

The CHAIRMAN. How many feet of ground is there?

Mr. HOLLISTER. 210,504 square feet, at an average price of about 36 cents a foot. It is a very low price and, of course, will never be duplicated again. But for the fact that the Government has once appropriated money for that land it would long since have been built up in residences and the entrance to the park would have been surrounded by drug stores and restaurants; that has served, in a way, to act as a slight cloud on the title and hindered development, but it can not be held back much longer. This is all a residence section on Cathedral Avenue and they are starting to build on this side of Cathedral Avenue [indicating]. It would be a great pity, of course, if the principal entrance to this great park were entirely cut off from the Connecticut Avenue car line except for a narrow road leading into it from the street, which would be lined with cheap refreshment stands near our entrance gate.

The CHAIRMAN. Then you are asking $4,000 for the purchase by condemnation or otherwise, of certain parcels of land between the present southeastern boundary of the National Zoological Park and Adams Mill Road from Clydesdale Place to Ontario Road.

Mr. HOLLISTER. The District of Columbia is now developing Adams Mill Road between Calvert Street and Harvard Street, and on the southeast side of the park, between the new road and the park, there is a small area of privately owned land right near the Adams Mill gate; it is not wide enough for residences, but it is wide enough for garages and will undoubtedly be used for that purpose if it is not taken over by the park.

The CHAIRMAN. What is the average width there—about 20 feet?

Mr. HOLLISTER. Yes; not much over 20 feet.

The CHAIRMAN. How many square feet?

Mr. HOLLISTER. There are 8,495 square feet.

The CHAIRMAN. And you are estimating for it on the basis of about 50 cents per square foot?

Mr. HOLLISTER. According to the assessor's valuation, a fair valuation based on the assessment, plus one-half, is $3,185; that is the estimated actual value at which it should be purchased. The estimate was made $4,000 in order to cover any necessary expenses. I think it can be purchased by agreement just as the other land on Connecticut Avenue can be purchased at the present time; I think that also can be purchased by agreement with the owners, and have the deal closed after seven years of uncertainty since the last appropriation for the purpose.

WEDNESDAY, FEBRUARY 11, 1920.

TARIFF COMMISSION.

STATEMENT OF MR. THOMAS WALKER PAGE, CHAIRMAN, ACCOMPANIED BY MR. J. F. BETHUNE, SECRETARY.

The CHAIRMAN. Mr. Page, you have an appropriation of $300,000 for the Tariff Commission for this year?

Mr. PAGE. Yes, sir.

The CHAIRMAN. And you are asking for $400,000 for the next year?

Mr. PAGE. Yes, sir.

The CHAIRMAN. What was the state of your balance on January 1?

Mr. BETHUNE. With the work allotted for the balance of the current fiscal year, there is no balance in sight, and some projects have necessarily been passed over.

The CHAIRMAN. That is, you have made an allotment of your appropriation so as to use all of the appropriation within the year?

Mr. BETHUNE. Yes, sir.

GENERAL STATEMENT ON ACTIVITIES OF COMMISSION.

Mr. PAGE. In doing that we have to omit certain very necessary work which should have been done, but which we could not afford to pay for. Would the committee be interested in knowing some of the activities which the Tariff Commission is now engaged on?

Mr. SMITH. Yes, sir; but, of course, the balance goes into the regular printing.

The CHAIRMAN. I understand that.

Mr. SMITH. That, I think, dates back to former years and is a rather generous outside limit.

The CHAIRMAN. How large an accumulation of papers and monographs have you that are not published?

Mr. SMITH. I spoke of 58 reports being in the hands of the editor and there are also reports that are in process of being written by geologists, engineers, etc., and on the 1st of March they numbered 188; those range all the way from 5 per cent to 95 per cent completed. The editor receives a few more reports each month during this time of the year than he sends forward to the printer, and under the present condition of the appropriation that must continue. Of course, when the geologists and engineers get into the field during the summer, then the editor begins to send forward reports under the new appropriation, and we gain.

The CHAIRMAN. Is there anything further you desire to say about this?

Mr. SMITH. I think that is all.

TUESDAY, MARCH 30, 1920.

SMITHSONIAN INSTITUTION PRINTING AND BINDING.

STATEMENTS OF MR. CHARLES D. WALCOTT, SECRETARY; MR. C. G. ABBOT, ASSISTANT SECRETARY; MR. J. WALTER FEWKES, CHIEF BUREAU OF AMERICAN ETHNOLOGY; AND MR. W. de C. RAVENEL, ADMINISTRATIVE ASSISTANT TO THE SECRETARY IN CHARGE OF THE NATIONAL MUSEUM.

BUREAU OF AMERICAN ETHNOLOGY.

The CHAIRMAN. You have an estimate of $80,100 for printing and binding?

Mr. FEWKES. $21,000 for the Bureau of American Ethnology.

The CHAIRMAN. I was speaking of the estimate for the entire Smithsonian Institution.

Mr. FEWKES. I can not speak for the Smithsonian.

The CHAIRMAN. How much of that is for the Bureau of Ethnology?

Mr. FEWKES. $21,000.

The CHAIRMAN. What do you desire to publish next year for which you would use that money?

Mr. FEWKES. You mean concrete examples?

The CHAIRMAN. Yes.

Mr. FEWKES. Well, one paper would be on the West Indian Islands. That would be a report of magnitude, and it would include an account of all the antiquities and ancient people of Porto Rico and the accompanying islands. It is a very necessary paper, considering our relationships with the Antilles and the Tropics of America. That is the thirty-fourth annual—the next annual report. Then also comes a report describing in detail the Winnebago Tribe. I am taking these tribes of Indians in sequence, and this will be the final word on the Winnebago Indians. Then I have——

The CHAIRMAN. Are you getting pretty close to the final word on all these Indians?

Mr. FEWKES. Well, so far as ethnology goes we are working toward that end, but there opens the great vista of the history of the Indian and the appreciation of the Indian, which will only come from a knowledge of what they have done in the past and what they can do. The field can not be exhausted within our lifetime, but some aspects of the subject are pretty well worked out. Our attention is now more especially directed toward a history of the migration and relation of the Indian race to the other great races.

The CHAIRMAN. How much of an allotment did you have for printing and binding for the current year?

Mr. FEWKES. The same amount, $21,000.

The CHAIRMAN. Are you going to expend all of that?

Mr. FEWKES. Yes, sir. Let me make a few remarks on the general principles of publication. The publications of the Bureau of Ethnology have a lasting value. I mean that we are really speaking not only to our contemporaries but also to those who come after us, and the application for our publications which are 20 years old is as great to-day as the day they were printed. In other words, we are not printing ephemeral things—a list of storms or any statistical matter that will be only of temporary value—but we are printing things which are of permanent value; they are to be and will be permanent records and will be as much appreciated and called for 20 years from to-day as they are to-day. Moreover, we are distributing these publications all over the world, and they represent to foreign people what our scientific men can do. We are putting our hearts and souls, so far as writing those papers is concerned, into the preparation of these publications, which are records of all the facts we can gather, in order to give an accurate story of what the Indian was when the white man came.

We think that publications of this character should not be treated in the same category as ephemeral papers. In the bureau we are serious about this matter, because it represents data which is rapidly vanishing; as I said, of lasting value; something which is distributed among foreign nations, from which they can judge what our scientific men are doing; and, moreover, we want them printed on paper which will not fall to pieces in 10 or 15 years, because they are read and reread. We want to make them typographically the best we can, and we are giving a great deal of attention to the accuracy of what we record. We are not carried away by anything which will not be of that lasting value.

The CHAIRMAN. What is the size of the edition of these publications?

Mr. FEWKES. By law we have 8,000 copies; 1,500 copies go to the Senate and 3,000 copies go to the House, 3,500 being for the bureau to distribute. We have a library, of course, and exchanges. The applications for these publications are so great that they are soon out of print. All of our publications of five years' standing are out of print, and there is a demand for them which takes about all the copies we have. I feel very strongly that the edition can not be reduced without seriously hampering this work which is going on in connection with the American Indian.

The CHAIRMAN. Is there anything further you want to say in regard to your item?

Mr. FEWKES. No, sir; but I would like to answer any questions which might occur to you. I do want to make it plain, however, that we could not, without seriously crippling our work, reduce the number of copies by diminishing the size of the appropriation.

The CHAIRMAN. You are speaking of the Bureau of Ethnology?

Mr. FEWKES. Yes, sir.

The CHAIRMAN. You do not speak for these other items?

Mr. FEWKES. No, sir; I am speaking simply for the Bureau of American Ethnology.

REAPPROPRIATION OF UNEXPENDED BALANCE.

The CHAIRMAN. All told, you are asking for $80,100 and for the reappropriation of an unexpended balance to the extent of $10,000, which would give you $90,100 as compared with a current appropriation of $76,200. What is the necessity for the increase?

Mr. ABBOT. Let us speak first, if you please, as to the reappropriation of the unexpended balance of about $5,200.

The CHAIRMAN. You are asking for the unexpended balance of an appropriation of $10,000?

Mr. ABBOT. Yes, sir.

ARREARAGE IN PUBLICATION OF ANNUAL REPORT.

The CHAIRMAN. How much is that unexpended balance?

Mr. ABBOT. $5,220.99. Owing to the congestion at the Printing Office during the war it was impossible to get our annual report for 1917 printed. It was printed in 1919 and was paid for out of the appropriation of 1920. It has been out now about four or five months. There was in the fiscal year 1919 this sum of $5,220.99 remaining which we could not use. The manuscript of the report for 1918 is at the Printing Office and if printed in this fiscal year will leave a deficit of $3,260.07, and we are asking for the reappropriation of the amount carried for the fiscal year 1919 to cover that.

The CHAIRMAN. Have you reduced the size of that publication?

Mr. ABBOT. Well, the different years vary somewhat, but they are not much different from year to year.

The CHAIRMAN. The size of the page is about the same?

Mr. ABBOT. Yes, sir.

The CHAIRMAN. You say the report for 1919 is ready?

Mr. ABBOT. The report for 1918 is at the printing office, and the manuscript for the report for 1919 is nearly ready to send, but we do not like to send it to the Government Printing Office in the face of a deficit of $3,000.

The CHAIRMAN. That is to say, you would have a deficit of $3,000 if you print it this year or you will have a deficit before you send that manuscript?

Mr. ABBOT. We have a deficit for the 1918 report of $3,000; that is at the printing office now and will be printed before the end of this fiscal year, and we are asking for this reappropriation in order to cover that deficit.

The CHAIRMAN. Let me see if I understand you. The current appropriation was $76,200?

Mr. ABBOT. That is for all of the different bureaus, for the Smithsonian Institution, for the National Museum, the Bureau of Ethnology, international exchanges, etc.

The CHAIRMAN. How much of an allotment do you have for the Smithsonian Institution?

Mr. ABBOT. $10,000 is the usual allotment for that.

Mr. WALCOTT. That is the annual report, Mr. Chairman [indicating].

The CHAIRMAN. That is what you call your annual report?

Mr. WALCOTT. Yes; and that goes to Congress.

The CHAIRMAN. $10,000 was allotted for that purpose in the sundry civil act approved July 1, 1918, and you only expended about half of it?

Mr. ABBOT. That is it, sir.

The CHAIRMAN. And you want the balance of that amount to complete the publication of the annual report for 1918?

Mr. ABBOT. That is right, sir.

The CHAIRMAN. And to start the printing of the 1919 report?

Mr. ABBOT. If we have the $10,000, which is usually granted, for the next fiscal year, then we can go on with the 1919 report, but as things stand the manuscript for the 1918 report is at the Printing Office and there is a deficit reported of $3,000.

The CHAIRMAN. If you have a reported deficit of $3,000 and you only have $5,000 of an unexpended balance out of the appropriation carried in the sundry civil act approved July 1, 1918, you would only have $2,000 for this report?

Mr. ABBOT. Then we shall have we hope, sir, $10,000 coming in for the fiscal year 1921.

The CHAIRMAN. And you will use that to pay——

Mr. ABBOT (interposing). For the 1919 report.

The CHAIRMAN. Where will you get the money to pay the balance due on the 1918 report?

Mr. ABBOT. Possibly I did not make the matter quite clear. The 1917 report is published and paid for; the 1918 report is at the Printing Office now.

The CHAIRMAN. But before it gets there you have a deficit of $3,000 in this appropriation?

Mr. ABBOT. No, sir; the estimate for printing the 1918 report is what makes this deficit.

The CHAIRMAN. What will it cost to print the 1918 report?

Mr. ABBOT. $9,500 is the estimate.

The CHAIRMAN. So your $5,000 will a little more than pay for the publication of that report?

Mr. ABBOT. Yes; and then we can start on the 1919 report this year, if that is possible.

NUMBER, COST, AND DISTRIBUTION OF ANNUAL REPORTS.

The CHAIRMAN. How many of those reports do you issue?

Mr. ABBOT. Ten thousand is the edition. It is, perhaps, the most popular thing we have in the United States; it goes out of print in a very few weeks after it is issued, and that is always the case.

The CHAIRMAN. How are they distributed?

Mr. ABBOT. They are distributed to libraries and to individuals. We have quite a large list of libraries all over the United States to which we send copies, and to a selected list of individuals. But we have a great many requests, and the requests come in before the issuance of every volume—thousands of them.

The CHAIRMAN. Are any of those reports distributed to Members of the House and Senate?

Mr. WALCOTT. A great number of them. The House gets an edition of 2,000 and the Senate 1,000, but in addition the Institution sends out many hundreds of volumes annually in compliance with requests of Members of the House and Senate.

The CHAIRMAN. How long has that publication cost you $10,000 a year?

Mr. ABBOT. The cost has increased a great deal, and I have figures here in that connection. The 1911 report, which was printed in 1913, cost $5,166, and the 1918 report, which is at the Printing Office now, is estimated to cost $9,500. There were certain differences in the number of pages, number of plates, and in the size of the edition, so that we estimate the increase in cost from 1913 until now is about 50 per cent, as near as we can tell.

FOR PRINTING VOLUME 4, ANNALS OF THE ASTROPHYSICAL OBSERVATORY.

The CHAIRMAN. What is the next publication in importance?

Mr. ABBOT. Shall I speak for the Astrophysical Observatory now?

The CHAIRMAN. We will be glad to have you take up the matters in any way you desire.

Mr. ABBOT. We are asking $4,000 for the Astrophysical Observatory for printing in place of the usual allotment of $200, which is merely for binding and small matters. This is to print volume 4 of the Annals of the Astrophysical Observatory, which will contain the results that have been accumulated since 1913. In 1913 we published volume 3 of the Annals, and at that time the cost of printing was much less: the estimate at that time was $2,900, but in view of the fact that we only had $2,000, they printed it for $2,000, but now we are asking $4,000, in view of the fact that printing is 50 per cent higher. That is the estimate for a volume that is similar, I dare say; the actual cost may be a little under $4,000 or thereabouts; at any rate, that is the estimated figure.

The CHAIRMAN. For the current year you only have $200?

Mr. ABBOT. Yes; but that is only for such purposes as binding of volumes and for a little printing of blanks.

The CHAIRMAN. Did you formerly have $2,000 for the printing of the annals?

Mr. ABBOT. Yes, sir. In 1913 we had an appropriation of $2,000 for that purpose for volume 3; again, in 1908, we had an appropriation of $2,000 for the purpose of printing valume 2 of the annals, and again in 1900, I think it was, we had an appropriation of $2,000 for the purpose of printing volume 1. So at intervals of about five or seven years we print a volume of the Annals.

Mr. MAGEE. How large is the volume?

Mr. ABBOT. It is a quarto volume of about 250 pages, containing a large amount of tabular matter which is the result of our observations for five or six years. This proposed volume is very eagerly

sought at present, and it is one of the most interesting volumes to astronomers and meteorologists that is to be printed at the present time.

The CHAIRMAN. How important is its publication this next year?

Mr. ABBOT. The manuscript is ready, and I am continually getting requests, so that we have to copy in typewriting some parts of the tabular matter to satisfy the requests.

The CHAIRMAN. Suppose we held you down to your appropriation for this year, giving you the unexpended balance to publish the 1918 annual report, is this item so important that you would spend $4,000 in publishing it?

Mr. ABBOT. We could not spend it unless you gave it to us explicitly for the Annals; we would have no authority to print volume 4 of the Annals unless you should make this appropriation.

The CHAIRMAN. But suppose we gave it to you and cut down some place else; is it so important that you would rather do that? I notice that since 1915 you have only had $76,200, and for reasons that are obvious we are trying to hold the appropriations down without granting increases unless there are some extraordinary reasons for it.

Mr. ABBOT. Of course, there are other departments concerned. Dr. Fewkes represents the Bureau of Ethnology, and Mr. Ravenel will speak for the National Museum. I represent the Astrophysical Observatory. The material for volume 4 of the Annals is ready for printing. There is a demand for it, and we want to print it in order to meet the requests that come in.

The CHAIRMAN. You should have had that ready for printing before the war, when the going was good.

Mr. ABBOT. We had not made the observations before the war. We have been making observations all the while.

Mr. MAGEE. I understand that you want a specific appropriation to print your document?

Mr. ABBOT. Yes, sir.

Mr. MAGEE. And if you get that specific appropriation, you are not concerned about the appropriation for other purposes?

Mr. ABBOT. No, sir. Of course, I am concerned about the Smithsonian Institution, and that you do not cut off the rest of the appropriation, but I am speaking now for the Astrophysical Observatory. Of course, if you require us to postpone that for a year, there is nothing that we can say.

The CHAIRMAN. Just how important is it?

Mr. ABBOT. As I have told you, the manuscripts are ready, and people are waiting for it. They are asking for that matter just now, and I have been sending out typewritten copies of parts of it. We want this in order to meet the demand.

The CHAIRMAN. What institutions or scientific men would use this publication?

Mr. ABBOT. The Chief of the Weather Bureau a few days ago had me to send all the tables from 1913 until now, and he made photostat copies of them for his use. Manuscript has also been sent to Dr. Bauer, Dr. Hale, Dr. Ingersoll, and others in this country. Then, I have sent some to Norway to Dr. Nansen. I can not recall all the places, but there were a good many others. There was matter sent

to Dr. Ångström in Sweden, and to Dr. Guthmick in Berlin. There are several others who have been inquiring about the work.

The CHAIRMAN. The last edition was printed in 1913?

Mr. ABBOT. Yes, sir; that was volume 3.

The CHAIRMAN. This volume will be about as large as volume 3?

Mr. ABBOT. Yes, sir; about the same size.

The CHAIRMAN. That was printed for $2,000?

Mr. ABBOT. Yes, sir; $2,000. However, they estimated $2,800 or $2,900.

The CHAIRMAN. Have you had an estimate made on the manuscript that you want to print next year?

Mr. ABBOT. No, sir; not yet; but it seems to me that in view of the increase of the estimates on other lines, $4,000 will just about meet their estimate.

The CHAIRMAN. How many pages will it contain?

Mr. ABBOT. About 250 quarto pages.

NATIONAL MUSEUM—PRINTING ANNUAL REPORT, ETC.

The CHAIRMAN. You are asking $37,500 for the printing of the annual report and other publications of the National Museum.

Mr. RAVENEL. That is for the printing of the various publications of the National Museum, including the annual report. That is the smallest publication we issue. The cost of that is about $2,200 for 5,000 copies. The other volumes that we issue are bulletins which are large papers, describing the collections, chiefly natural history and including botany; and it also includes the proceedings which are large volumes, containing anywhere from 40 to 150 different papers descriptive of new species and also of the collections. They come out as separates as fast as they are printed and are distributed at once. The editions vary in accordance with our lists. We have lists to which we supply publications on ornithology, and a list to which we supply publications relative to mammals. Also lists for geology and other various subjects. Of the volume of proceedings we only print about 2,080 copies, and then anywhere from 350 to 1,000 more separates. We hold that down as much as possible. There is no waste of paper. The cost of the proceedings is just about $8 per page, or that was the cost in 1914. I do not know what it is now.

Last year we got out two volumes of the proceedings and eight volumes of bulletins. The other expenses that will be paid out of this appropriation are for blanks and labels for labelling the collections, or labels for the Congressional Records and other congressional documents, catalogue cards, etc. Under the present appropriation, we have received bills from the Government Printing Office for $2,500 worth of publications already turned over to us, and we have $25,200 worth of printing up there. I suppose we have on hand ready to send to the printer several thousand dollars worth of manuscripts in addition. All of those publications are passed upon by a committee consisting of members of the staff before they are recommended for publication to the Secretary; so that each paper is the subject of careful consideration.

The CHAIRMAN. Does the Smithsonian Institution pay the writers of these papers for their work?

Mr. RAVENEL. Not in the National Museum, except in cases where we have men working up collections and incidentally writing a description of them, after identifying and cataloguing the specimens. That is the case with Prof. Cushman, of Boston. I think he is the only man to whom we have paid anything for years for such service, and we pay him on a very reasonable basis. We have papers prepared by any number of specialists in the various colleges and universities in the country, but that work is always absolutely free, except for the illustrations which we pay for. A large number of those papers are prepared by our own staff.

The CHAIRMAN. Where the paper is prepared on the outside, you do not accept it until your own staff has passed upon it and decided that it is a paper of such scientific value as to warrant its publication?

Mr. RAVENEL. Yes, sir; that is true of every paper except the annual report. It is a very small volume.

The CHAIRMAN. You think that you will need all of this $37,500 for next year?

Mr. RAVENEL. I beg to say that we were notified two weeks ago that we had enough manuscript at the Government Printing Office to use up our entire appropriation, and they were hoping that we would not send any more. We have sent two bulletins, at least, since then. I suppose we have $4,000 worth of printing ready, and we will have in the next three months $5,000 or $10,000 worth in addition.

The CHAIRMAN. Will you spend the entire appropriation?

Mr. RAVENEL. Yes, sir; last year we had a balance of $845, with manuscripts in the hands of the printer that would have cost $10,000 to print. The year before we had several thousand dollars left over through no fault of ours. We issued two annual reports in 1919, as owing to the death of the Assistant Secretary in July, 1919, his report was delayed in the preparation.

INCREASE IN COST OF PRINTING.

Mr. WALCOTT. You were referring to the matter of heavy costs. I find on getting bids from private firms for printing Smithsonian Institution publications, which are paid for from Smithsonian funds and not by the Government, that the costs have greatly increased. I have here a comparison of the cost in 1913 with that in 1920. The cost of a printed page in 1913 with 10-point type was $2, and in 1920 $4.95; with 8-point type the cost was $2.60 in 1913, and $5.85 in 1920; in 8-point tabular, the cost in 1913 was $4.58, and in 1920 $12.95; blank in 1913 was $1.15, and $3.65 in 1920; alterations per hour were 60 cents in 1913, and $1.25 in 1920. Plates printed on one side were $7.50 in 1913, and $13.50 in 1920. The binding of pamphlets of 20 pages, no plates, was $16.50 in 1913, and is $48 in 1920.

You will notice from that statement that the total unit cost in 1913 was $34.93, as compared with $90.15 in 1920. Just what the proportionate cost is at the Government Printing Office I do not know, but I presume it will be found to be approximately the same. We have not and do not wish to urge increased appropriations, but you can see from the foregoing that any reduction of appropriation will greatly embarrass us. As conditions now are, valuable

manuscripts are being accumulated on account of lack of funds to print them. Under the estimate for printing the Smithsonian Report a request is made for the reappropriation of the balance unused of the pressure of work at the Government Printing Office, the printing of the Smithsonian Report for 1917 was not completed during the past fiscal year, which not only caused the above unexpended balance, but carried the charge for that volume over into the current year, thereby using up practically half of the current appropriation. Thus there will not be sufficient funds to provide for the publication of the 1918 report, now in press, and that of the volume for 1919, which will be ready for the printer in a short time, unless the above-named balance is reappropriated and made immediately available.

INTERNATIONAL EXCHANGES.

The CHAIRMAN. You want the same appropriation for miscellaneous printing and binding for the international exchange?

Mr. WALCOTT. Those are small amounts representing routine work that must go on.

The CHAIRMAN. You have had this amount for several years, and I presume you spend practically the same amount every year?

Mr. WALCOTT. Yes, sir.

The CHAIRMAN. How important is Dr. Abbot's publication?

Mr. WALCOTT. If you do not give it, I will try to raise it. It seems to me that it is quite a valuable contribution. The last volume was received in a very satisfactory way all over the world. It deals both with astronomy and meteorology.

Mr. Chairman, may I say a word in relation to the value of scientific research and its wide dissemination through publications? A few years ago the sugar canes in a part of Mauritius were found to be suffering from the attacks of a beetle larva which ate their roots. The Government entomologist provisionally determined the beetle as belonging to a genus characteristic of Africa and said to be representative of two species in the Madagascan region. The only remedies that suggested themselves were to dig up the root stumps and to destroy the larvæ and to catch the beetles on the shrubs to which they flew for their food at night. Although more than 27,000,000 insects were thus accounted for in about six months the natural rate of duplication was so great that the area affected rapidly increased, and the ruin of the whole sugar industry of Mauritius was imminent.

Meanwhile the entomologist of the island had sent specimens to the British Museum for more accurate determination. Beneath the scrutiny of a specialist the beetle proved to belong not to the African species but to an American genus. Of the actual species, however, no description or record could be found. Search through the vast collections of the British Museum brought to light three similar specimens labeled "Trinidad." This was evidence that the species occurred in the West Indies, but it had never been reported as doing much damage to the sugar canes of Trinidad. A skilled entomologist was intrusted with specimens from Mauritius, and

eventually found both beetle and larva at the roots of cane stumps in Barbados. It was found that a so-called "blackbird" follows the workmen when rooting up the cane stumps and eats the larvæ. The other enemy, though less conspicuous, is more successful. Attached to one of the larvæ brought back from Barbados to the British Museum there was found a tiny grub. Its appearance and the manner of its attachment suggested that the grub belonged to a form of Solitary Wasp which use the larvæ for food for their own young. Further research proved the grub to be the larva of a common species from Barbados. An allied species of grub exists in Mauritius, but had not attacked the invader, which, being thus quit of its original enemies, has multiplied to an enormous extent.

The next thing to do was to establish the wasp at Mauritius. This was done. The grub has begun to spread, so that the future of the sugar plantations, as far as this pest is concerned, is assured.

DATA FOR PURCHASE OF LAND FOR ADDITION TO NATIONAL ZOOLOGICAL PARK.

I have some data here that I would like to insert in the record in relation to the purchase of land for addition to the National Zoological Park, which was referred to in the hearings before the committee on February 19, 1920.

The CHAIRMAN. Certainly.

(The matter referred to is as follows:)

Details of valuation of land between National Zoological Park and Connecticut Avenue asked for in National Zoological Park estimates of appropriations for 1921:

Lot No.	Area in square feet.	Approximate price per square foot.	Price.
55/61	7,918.3	$80.05\frac{1}{2}$	$950.16
55/60	94,201	$.22\frac{1}{2}$	16,014.17
54/5	2,972.84	$.37\frac{1}{2}$	1,040.20
54/6	33,113.26	.33	6,682.40
55/58 (part)	36,000	.75	27,000.00
54/4 (part)	36,000	.75	27,000.00
Total	210,505.4	[1] .36	78,686.93

[1] Average, about.

Values are based on awards of jury of condemnation of July 28, 1915, and are considerably lower than valuation based on a two-thirds assessed value at present time.

The land can now be purchased by agreement at the price stated, $78,686.93.

The estimates as submitted were placed at $80,000 to cover any cost of proceedings.

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